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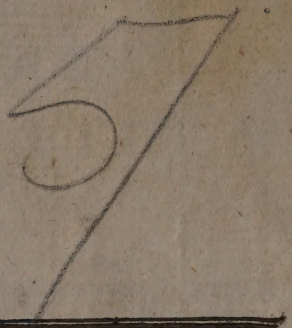

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THE

EDINBURGH

NEW DISPENSATORY:

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II.
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III.
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THE THIRD EDITION;
With many ALTERATIONS, CORRECTIONS, and ADDITIONS:
And a full and clear ACCOUNT of the NEW CHEMICAL DOCTRINES publiſhed by MR. LAVOISIER.

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TO

SIR GEORGE BAKER, BART.

PHYSICIAN TO THEIR MAJESTIES,

AND

PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

SIR,

IF the preſent edition of this work have any ſuperiority over the laſt, that ſuperiority principally ariſes from the many important improvements which have lately been made in the LONDON PHARMACOPOEIA; and for theſe improvements the public is not a little indebted to you. Permit me therefore to take this method of acknowledging, as an individual, the obligation which, in my opinion, you have conferred on every medical practitioner: And believe me to be, with ſincere eſteem,

Your moſt obedient ſervant,

EDINBURGH,
Nov. 1, 1788.

ANDREW DUNCAN.

PREFACE.

SUCH was the ſuperiority of Dr Lewis's Diſpenſatory, at the time of its publication, over all others then extant, that it ſoon ſuperſeded every work of a ſimilar nature in Britain, and obtained very high reputation abroad. During the life of the author, the improvements which that work received from his hands in ſucceſſive editions, correſponded to the diſcoveries that were then made in pharmaceutical chemiſtry; but during the period which has elapſed ſince the world were deprived of the labours of that ingenious, induſtrious, and learned man, chemiſtry, in all its branches, has received many and very great improvements. It was therefore concluded, that an attempt to collect and apply the lateſt and moſt important diſcoveries to his Diſpenſatory, would be acceptable to the public.

This attempt was carried into execution a few years ago, by the publication of a work, under the title of EDINBURGH NEW DISPENSATORY. That work met with an unequivocal proof of public approbation: for in little more than a year, a very large impreſſion was completely ſold off. On this event it would again have been immediately put to the preſs, had it not been from the expectation of a new edition of the London Pharmacopœia; which was at that time in ſuch forwardneſs, that a ſpecimen of it had been diſtributed with the view of obtaining the opinion of intelligent pharmaceutical chemiſts reſpecting the intended alterations. That expectation was ſoon fulfilled. About the beginning of the year 1788, the London College, who had made no alteration in their Pharmacopœia for near half a century before, republiſhed that work, with many alterations and corrections: And as far as the laſt edition of this publication has any ſuperiority over the former, that

that ſuperiority principally aroſe from the many important improvements which the new London Pharmacopœia contains.

That edition of the Edinburgh New Diſpenſatory included a complete tranſlation of the preſent London and Edinburgh Pharmacopœias, which are by Royal authority the ſtandards of pharmaceutical practice in Britain: and it contained alſo many additions from the beſt foreign Pharmacopœias lately publiſhed on the continent of Europe, particularly from the Pharmacopœia Suecica, Roſſica, Danica, Brunſvicenſis and Genevenſis. But there was not a more material difference between the ſecond and the former impreſſion of this work, in the additions than in the diminutions: And it was preſumed, that no inconſiderable advantage aroſe from expunging from that edition many articles which retained a place in the former, although obſolete, abſurd, and not intitled to more notice than many of the preſcriptions of Galen and Paracelſus, long ſince baniſhed from every pharmacopœia. By omitting theſe, the time of the reader will not only be ſaved, but the danger of error avoided.

In the ſecond edition, very conſiderable alterations were alſo made in the arrangement of the work. Inſtead of four, it was divided into three parts: The firſt of theſe, The Elements of Pharmacy, was in the firſt edition adapted to the principles of modern chemiſtry, and illuſtrated by engravings of the moſt convenient furnaces and principal pharmaceutical inſtruments; here, therefore, there was but little room for alteration; and it was accordingly preſented to the public very nearly in the ſame ſtate as before.

In the ſecond part, The Hiſtory of the Materia Medica, the alphabetical mode of arrangement, which has in many particulars a decided ſuperiority over every other, and which is now adopted in almoſt every modern Pharmacopœia, was retained. But to join with this the advantages of other arrangements, a ſhort view was annexed of ſome of the leaſt exceptionable arrangements, antient and modern. The number of articles, of which a hiſtory is given in this part of the work, was conſiderably abridged: for all thoſe were rejected which did not retain the ſanction of ſome modern Pharmacopœia of credit. Some articles, however, which, although not received into any of the modern Pharmacopœias, had been recommended to the public on ſuch authority as, at leaſt, to point them out as the ſubject of attention, were added. The account which was given of the operation and uſe of each article, correſponded to the pathological opinions at preſent moſt generally received among the moderns, and to the concurring teſtimony of faithful and accurate obſervers.

The

The third part contained what was formerly distributed into two, viz. Pharmaceutical Preparations, and Medicinal Compositions. In this part both the London and Edinburgh Pharmacopœias were followed, and indeed, in many cases, it is totally impossible to draw an accurate line between preparations and compositions: accordingly, most of those articles which were formerly referred to one or other of these heads, had an equal title to belong to both. In the arrangement of the different classes of preparations and compositions, the order of the London Pharmacopœia was followed; which, while it differs very little from that of the Edinburgh College, is perhaps, in some particulars, preferable: But under each chapter, comprehending salts, spirits, powders, pills, or the like, the most active and esteemed formulæ from foreign Pharmacopœias which have not a place in those of Britain, were introduced. By these changes the work was not a little improved.

In the present edition no alterations have been made in the arrangement of the articles, or in the general plan of the work: peculiar attention has been paid to the accuracy of the translation; and some of the principal typographical errors have been corrected.

The additions are not numerous, although material: They are chiefly, enlarged tables of the elective attractions, single and double; and a complete account of Lavoisier's, or the new chemical doctrines, reduced to a systematic form.

EDINBURGH,
Oct. 1791.

Explanation of the Contractions used for the Titles of different Pharmacopœias quoted in this Work.

Lond.—Pharmacopœia collegii regalis medicorum Londinenſis, 4to. Londini, 1788.

Edin.—Pharmacopœia collegii regii medicorum Edinburgenſis, 8vo. Edinburgi, 1783.

Gen.—Pharmacopœia Genevenſis, ad uſum noſocomiorum, 8vo. Genevæ, 1780.

Suec.—Pharmacopœia Suecica, editio altera emendata, 8vo. Holmiæ, 1779.

Roſs.—Pharmacopœia Roſſica, 4to, Petropoli, 1778.

Brun.—Diſpenſatorium pharmaceuticum Brunſvicenſe, 4to, Brunſvici, 1777.

Dan.—Pharmacopœia Danica, regia auctoritate, a collegio medico Haunienſi conſcripta, 4to, Hauniæ, 1772.

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INTRODUCTION.

PHARMACY is the art of preparing, preſerving, and compounding ſubſtances for the purpoſes of medicine. This art has been commonly divided into two branches, *Galenical* and *Chemical* pharmacy. But for this diviſion there is no foundation in nature: And accordingly, proceſſes in one pharmacopœia referred to the head of Chemical, are in another referred to the head of Galenical. There can be no doubt, that even the moſt ſimple pharmaceutical preparations are to a certain extent chemical. Hence this diviſion, founded on prejudice, and ſupported merely by a veneration for antiquity, is now baniſhed from almoſt every modern pharmacopœia.

PHARMACY has alſo been divided into *Theoretical* and *Practical;* the firſt, conſiſting not merely of ſpeculative opinions, but of a knowledge of facts and principles, tending to explain the *rationale* of proceſſes; the latter, comprehending the mere manual labour employed in proceſſes.

THE

The former of these may therefore be justly styled Scientific Pharmacy. And there can be no doubt that an acquaintance with it is essentially necessary to the due exercise of the healing art: For without it the practitioner must often err in the forms of preparations and compositions which he employs; and he must often be deceived in the effects resulting from compositions, when he infers their properties from the known powers of the ingredients in their separate state. It would therefore be highly improper to detach the scientific and practical parts of pharmacy from each other. And accordingly, in the first part of this work, a general view is given of the elements of pharmacy both practical and scientific, that the reader may be better prepared for the consideration of the particular processes which are treated of in the second and third parts.

As the new chemical doctrines lately published in France by Mr Lavoisier will in all probability be generally received in Europe, it has been thought the subjoined account of them would be acceptable to the pharmaceutical reader.

ABSTRACT

ABSTRACT

OF THE

NEW CHEMICAL DOCTRINES.

AS the new chemical doctrines, under the name of the Antiphlogiſtic theory, have acquired great celebrity, and are making rapid progreſs to overturn the theory of phlogiſton, ſo long followed by chemical philoſophers, it is preſumed that a general view of the principles of the new doctrine will not be unacceptable to moſt readers; and that an explanation of theſe principles might with propriety form part of the introduction to a ſyſtem of an art which depends ſolely on the ſcience of Chemiſtry.

A general account of the new Chemical philoſophy cannot be more properly conveyed, than by giving an abſtract of the Elements of Chemiſtry, lately publiſhed by Mr. Lavoisier, which is the only connected ſyſtem of the new doctrine. The ſyſtem is in a great meaſure his own: it owes its

form and consistency entirely to his investigation and accurate observations; and is in a very considerable degree founded on his own discoveries. Although their superiority has occasioned these new doctrines to be quickly spread over Europe, yet their rapid progress in Britain has been farther assisted by that excellent translation of them into our language by Mr. KERR; who, from his thorough knowledge of the subject has done every justice, that was in the power of a translator to do, to Mr. Lavoisier's book.

THE principal difference between Mr. Lavoisier's chemical philosophy, and the STAHLIAN theory, consists in his having totally rejected the hypothetical element phlogiston, as unfounded, and even contradictory to fact and observation; while all the phenomena, usually denominated phlogistic, are clearly shewn to depend on the absorption, or extrication, of vital air, or its solid base, called, in the new nomenclature, *Oxygen*. It is extremely singular, but at the same time highly convenient, that nearly all the explanations of chemical phenomena, given by the followers of the old theory, may be changed into the new doctrines, merely by abandoning the term phlogiston, and adopting the element of oxygen, with a slight inversion of the language. Whenever a body is by the Stahlians said to become phlogisticated, or, in other words, combined with the imaginary element of phlogiston, Mr. Lavoisier and his followers have clearly proved that oxygen, or basis of vital air, is extricated; and, on the contrary, that when a body was supposed to part with phlogiston, or be dephlo-

dephlogisticated, it had in reality absorbed, and become combined with, vital air.

Mr. Lavoisier begins with explaining his ideas concerning the constitution of elastic aeriform fluids or gasses, shewing, or at least giving strong arguments to prove, that they consist of a solid basis, combined with the matter of heat, called in the new nomenclature, *Caloric*. He founds this hypothesis on the observed general effects of increased temperature in bodies; but more especially that constant effect of their being augmented in their dimensions in every direction in consequence of an increased temperature. And he concludes from analogy, that all bodies are either *solid*, *fluid*, or *aeriform*, according to the proportions which exist between the attractive forces inherent in their particles, and the repulsive power which caloric exerts to separate them. It follows from this theory, that all bodies are naturally solid, if heat, or caloric the cause of heat, were abstracted; and consequently, that all liquids and aeriform fluids consist of a peculiar naturally solid basis, or a *principium proprium*, the particles of which are prevented from obeying the general law of attraction by their being combined with caloric, as a *principium commune*. By this hypothesis, and by the observed fact of the absorption of vital air, he explains the appearance of heat in combustion; shewing that vital air which he calls oxygen gas, being composed of a solid basis, viz. oxygen, united with caloric, must necessarily depositit its caloric, when it quits the form of air to combine with a solid combustible body, or to change

from a more rare to a more denſe ſtate of aggregation; and conſequently, that theſe phenomena depend on the various elective attractions of caloric, as far as heat is concerned. That caloric when chemically combined with any body, alters the aggregation of that body to a more rare ſtate, either from ſolid to liquid, or from liquid to aeriform, according to the exiſting proportions; and that when ſet free from combination, it produces increaſe of temperature, accompanied with light, or fire, in proportion to its degree of concentration.

THERE are ſeveral ſimple elaſtic aeriform fluids, which in all known temperatures, retain the ſtate of gas, but which enter into combinations with other bodies, ſo as to aſſume the ſolid or liquid forms of aggregation. For the ſake of preciſion he chuſes to make a diſtinction between the ſolid baſis which forms theſe combinations, and the gas, in which they are combined with caloric. The chief of theſe gaſſes has long been called vital air; but Mr. Lavoiſier thinks it preferable to confine the term air to the atmoſpheric fluid, which is a mixture of ſeveral gaſſes, and to diſtinguiſh the individuals by adding to the generic term of gas, a ſpecific name derived from ſome eminent property of the ſolid baſis which forms its peculiar element. Thus he gives to vital air the name of *oxygen gas*, from the remarkable property of its baſe, which he calls oxygen, being the univerſal cauſe of acidity.

He has clearly proved that every inſtance of combuſtion is a caſe of the combination of this oxygen with the combuſtible body, and that in moſt caſes this combination may take place in ſeveral degrees or limits of ſaturation. In general, when this ſaturation is complete, the compound body is an acid; and, in the new language, the combuſtible body is ſaid to be oxygenated. Thus moſt combuſtible bodies are acidifiable baſes, or ſubſtances capable of being converted into acids by combination with oxygen. When the degree of the ſaturation of the combuſtible body falls ſhort of what is neceſſary for the compoſition of an acid, the compound is named an oxyd. The proceſs in the former caſe is called oxygenation, and the baſe is ſaid to be oxygenated: in the latter caſe the baſe is ſaid to be oxydated, and the act is ſtyled oxydation. Theſe terms are arbitrary; but, as they give clearneſs and preciſion to chemical language, without lengthened explanation, they are of great uſe.

There is only one known inſtance of a combuſtible body combining with oxygen, without forming an acid or an oxyd approaching to the acid ſtate. Inflammable air, as it was formerly called, is a ſimple gas capable of uniting with oxygen by combuſtion: the two gaſſes depoſit their caloric, which ſhews itſelf in fire, or heat and light; and the compound body reſulting from their union is water. From this circumſtance the ſolid baſe of the combuſtible gas has received the name of *hydrogen* in the new nomenclature;

menclature; and in its aeriform ſtate, combined with caloric, it is called hydrogen gas.

One of the aeriform fluids, which compoſes the mixture called atmoſpheric air, is fatal to animal life, and extinguiſhes flame. It had formerly ſeveral names, according to the fancy of different philoſophers; ſuch as atmoſpheric mephitis, foul air, phlogiſticated air, &c. In the new nomenclature it is called *azotic gas*, and its baſe, from its lethal quality, *azot*. This baſe unites in ſeveral different degrees of ſaturation with oxygen, forming either oxyds or acids according to the ſaturating proportions of oxygen in the compound. In the loweſt degree of ſaturation with oxygen, the compound ſtill retains the aeriform ſtate, and does not diſſolve in water: This, according to the general principles of the new nomenclature, ought to be called *azotic oxyd gas*; but its former name, *nitrous gas*, being very familiar, and involving no contradiction or ambiguity, is retained. By a farther ſaturation with oxygen, this nitrous gas is changed into the ſtate of an acid, which retains the aeriform aggregation when alone; but is ſoluble, in conſiderable quantity, by water. For this acid the old name of nitrous acid is retained for the ſame reaſons as were given for retaining nitrous gas; but the two long known ſtates of this acid are diſtinguiſhed by varying the termination of the ſpecific name: The high-coloured, red, ſmoking acid, formerly called phlogiſticated, is now called nitr*ous* acid, and the pale, ſtronger acid, which does not emit red vapours, formerly called dephlogiſticated nitrous acid,

is

is now named nitr*ic* acid. The difference between theſe two ſtates of the acid depends on different ſaturating quantities of oxygen, united with the ſame acidifiable baſe; the latter, or more perfect nitric acid, being fully ſaturated with oxygen, while in the former leſs perfect, and ſmoking nitrous acid, there is an over proportion of azot. Theſe acids may be mutually converted into each other; the nitric into the nitrous, either by the addition of azot, or the abſtraction of oxygen; and *vice verſâ*.

Azot and hydrogen, combined together, form cauſtic volatile alkali, or *ammonia*, as it is called in the new nomenclature. The reaſon of changing the name of this ſubſtance is to avoid unneceſſary periphraſis in chemical language, and, as much as poſſible, to give each particular ſubſtance a clear and appropriated ſingle term; the great advantages of which general principle of nomenclature will be ſeen by comparing the new names of the neutral ſalts with their old arbitrary denominations.

Several ſimple combuſtible ſubſtances, during combuſtion, combine with with oxygen, and form oxyds or acids in the ſame manner as azot. Sulphur, when burnt ſlowly, unites with an under-ſaturating quantity of oxygen to form a volatile weak and highly odorous acid, formerly called phlogiſticated vitriolic, or ſulphureous acid, but now termed ſulphur*ous* acid. When burnt more rapidly, it abſorbs a greater quantity of oxygen, and the reſulting compound is a ponderous ſtrong and inodorous acid, called

called ſulphur*ic* acid, formerly the vitriolic. Theſe are likewiſe changeable into each other, either by adding oxygen to the ſulphureous, or by taking it away from the ſulphuric acid.

Phosphorus is a ſimple combuſtible ſubſtance which, like ſulphur, combines with oxygen in two degrees of ſaturation; the leſs oxygenated combination being called the phoſphor*ous*, and the more perfectly oxygenated ſtate, the phoſphor*ic* acid.

Charcoal, or rather its elementary and ſimple combuſtible part, called *carbon*, or *char*, to diſtinguiſh it from the impure mixture called *charcoal*, unites, during combuſtion with oxygen to form carbonic or charic acid, formerly known by the names of fixed air, fixable air, aerial acid, &c.

There are ſeveral known acids which have not yet been decompoſed, and their acidifiable baſis conſequently remain unknown. Theſe are the *muriatic acid*, *boracic acid*, and *fluoric acid*; but from the general analogy, it may be fairly preſumed that they conſiſt of peculiar combuſtible baſes, combined with oxygen as their general acidifying element. Though muriatic acid cannot, in our preſent ſtate of chemical knowledge, be decompounded ſo as to diſcover its baſe, it can be made to unite with a conſiderable additional quantity of oxygen, and it thereby acquires properties very different from thoſe it poſſeſſed in its ordinary ſtate: In this new ſtate it is called in the new nomenclature, *oxygenated muriatic acid*.

Super-

Super-oxygenated muriatic acid would perhaps be a better name for it.

Besides these simple acids, or acids with simple bases, many acids have compound bases, or two or more simple acidifiable bases united together, and these compound radicals are converted into acids, or are oxygenated by combination with oxygen. The compound acid, long known under the name of *Aqua regia*, is of this kind, and it is evident, from the elective attractions and other phenomena, that the nitric and muriatic acids, which form it, are chemically combined together; that is, their acidifiable bases unite to form a compound radical, for the acidification of which the oxygen of both acids serves in common. The other acidifiable and oxydable compound bases are procured from vegetable and animal substances, and consist, in general, of various proportions of carbon and hydrogen united together, sometimes with the addition of azot, or phosphorus, or both. In the state of oxyds, these compound radicals have an addition of oxygen in a saturating degree not sufficient for the acid state: sugar, starch, gum, mucus, gluten, oil, resin, alkohol, ether, &c. are compound acidifiable bases, united only with the oxydating proportion of the oxygen. The acids of this order are,

New Names.	*Old Names.*
Tartarous acid	Acid of tartar.
Malic acid	Unknown till lately.
Citric acid	Acid of lemons.
Pyro-lignous acid	Empyreumatic acid of wood.
Pyro-mucous acid	Empyr. acid of sugar.
Pyro-tartarous acid	Empyr. acid of tartar.

Oxalic acid	Acid of forrel.
Acetous acid	Vinegar, or acid of vinegar.
Acetic acid	Radical vinegar.
Succinic acid	Volatile falt of amber.
Benzotic acid	Flowers of benzoin.
Camphoric acid	Unknown till lately.
Gallic acid	The aſtringent principle of vegetables.
Lactic acid	Acid of four whey.
Saccholactic acid	Unknown till lately.
Formic acid	Acid of ants.
Bombic acid	Unknown till lately.
Sebacic acid	Ditto.
Lithic acid	Urinary calculus.
Pruſſic acid	Colouring matter of Pruſſian blue.

It is not pretended that theſe acids can be formed by combining the ſimple elements of their baſes, and adding oxygen to the compound radical, ſo as to produce a ſynthetic proof of their nature and conſtitution; but by means of deſtructive diſtillation in cloſe veſſels, and by other accurate modes of analyſis, their various elements can be ſeparated from each other, and their ſeveral proportions aſcertained with tolerable preciſion.

The metals form another ſet of oxydable or even acidifiable baſes, and it is worthy of remark, that in the ſtate of oxyds, they all agree with the general phenomena of alkaline bodies; while many of them, by a farther addition of oxygen, are converted into acids. They are all combuſtible bodies, and moſt of them require an exceeding high degree of temperature to combine them with oxygen in the dry way; but all of them may be combined with it in the moiſt

way

way, by taking advantage of the elective attractions. What was formerly called the reguline form of metals, is their moſt ſimple ſtate, in which they are not combined with any known ſubſtance; while, on the contrary, the ſtate of calx, in which they were formerly ſuppoſed to be pure elementary bodies, is that in which, by addition of a ſaturating portion of oxygen, leſs than is neceſſary for the acid ſtate, they are converted into metallic oxyds, formerly denominated calces. Of this ſtate of oxydation, there are, in moſt of the metals, ſeveral different degrees, and, in the new nomenclature, theſe different degrees of oxydation are diſtinguiſhed by their colours, or by the peculiar circumſtances in which the oxydation is produced.

It is abſolutely neceſſary for the ſolution of a metal in an acid, that the metal be in the ſtate of an oxyd, previouſly to the act of ſolution, or that it become oxydated during the proceſs, either by decompoſing a part of the acid uſed to diſſolve it, or the water with which the acid is diluted. Thus it always happens, that, when metals not previouſly oxydated, are diſſolved in the nitric acid, or in concentrated ſulphuric acid, a part of the acid is decompoſed; azot, or nitrous gas, or both, being diſcharged in conſequence of part of the acidifying oxygen, being taken away from the baſe to oxydate the metal; or ſulphurous acid, or even ſulphur is evolved, from a ſimilar decompoſition of the perfect ſulphuric acid, when that is employed for the ſolution. When diluted ſulphuric acid is employed, the water of dilu-

tion is decompoſed to oxydate the metal, in conſequence of the elements of the acid being held together by a ſtronger elective attraction, than that which is exerted between the conſtituent ingredients of water; the conſequence is, that, in this caſe, hydrogen gas becomes diſengaged, and the metal, while it is diſſolving in the acid, is oxydated by a part of the oxygen of the water.

THE above is in a great meaſure the whole of the new chemical doctrines; what remains is little more than a change of nomenclature, for the purpoſe of convenience and preciſion, and to avoid ambiguity, or what appear to the author to be falſe views of phenomena and chemical facts.

THE names of the metals are all made to terminate in Latin, in the neuter gender; and one word is uſed for denoting each in its moſt perfect ſtate of purity, as far as the preſent ſtate of chemical knowledge permits. Thus Platinum, Aurum, Argentum, &c. denote the perfect metallic, or reguline ſtate of Platina, Gold, Silver, &c.

THE alkalies and earths are named as follow:

New Names.	*Old Names.*
Potaſh	Pure, or cauſtic, fixed vegetable alkali.
Soda	—— —— —— mineral ditto.
Ammonia	Volatile alkali prepared with quicklime
Lime	Pure calcareous earth.
Magneſia	Calcined magneſia.
Barytes	Pure ponderous earth.
Clay	Pure argillaceous earth.
Siliceous earth	Pure ſiliceous earth.

THE

The combinations of alkalies, earths, and metallic oxyds with acids, forming what are called neutral, middle, earthy, and metallic ſalts, are divided into genera according to the acid which forms part of their conſtitution; and the peculiar baſis with which the acid is combined in each particular ſalt, forms the ſpecific name of that compound. By this means the former unintelligible, or falſe names of theſe ſalts, are rejected, and terms are employed, which not only indicate the particular ſalt meant to be expreſſed, but alſo enumerate the ingredients, and even expreſs the ſtate of the ingredients which enter the compoſition. Thus all the ſalts which have the ſulphuric acid, combined with an alkaline, earthy, or metallic baſe, are named *ſulphats;* while thoſe, having the ſulphurous acid combined with the ſame baſes, are named *ſulphites:* and ſo of the other acids as in the following table.

New Names.	*Old Names.*
Sulphat of barytes	Heavy ſpar, Vitriol of heavy earth.
potaſh	Vitriolated tartar, Sal de duobus, Arcanum duplicatum.
ſoda	Glauber's ſalt.
lime	Selenite, gypſum, calcareous vitriol.
magneſia	Epſom ſalt, ſedlitz ſalt, magneſian vitriol.
ammonia	Glauber's ſecret ſal ammoniac.
argil	Alum.
zinc	White vitriol, goſlar vitriol, white coperas, vitriol of zinc.
iron	Green coperas, green vitriol, martial vitriol, vitriol of iron.
manganeſe	Vitriol of manganeſe.
cobalt	Vitriol of cobalt.
nickel	Vitriol of nickel.
lead	Vitriol of lead.
tin	Vitriol of tin.

Sulphat

New Names.		*Old Names.*
Sulphat of	copper	Blue coperas, blue vitriol, Roman vitriol, vitriol of copper.
	bismuth	Vitriol of bismuth.
	antimony	Vitriol of antimony.
	arsenic	Vitriol of arsenic.
	mercury	Vitriol of mercury.
	silver	Vitriol of silver.
	gold	Vitriol of gold.
	platina	Vitriol of platina.

In some cases these salts may be formed with a limited and permanent super-saturating proportion of acid, or with the contrary excess of the alkaline earthy or metallic base: in these two cases the particular state of saturation is denoted by prefixing the word acidulous or alkaline to the former names. Thus cream, or crystals of tartar, which is known to consist of potash, or the fixed vegetable alkali, united to an excess of the tartarous acid, is called acidulous tartarite of potash, and so of the rest.

This is as full an account of the doctrines and nomenclature of the new chemical philosophy, as the limits of this prefatory discourse would admit: For farther particulars the reader must be referred to Mr. Lavoisier's Elements, where full and clear explanations are given of all the particular parts of the system; and where the chief objections, which have been made against it by the followers of the old theory, are obviated and answered.

It is certainly no small confirmation of the reasonableness, and superior evidence of this new chemical philosophy, that Dr. Black, who has long taught chemistry

chemiſty in this univerſity, with the greateſt and moſt deſerved reputation, and who is himſelf a very conſiderable chemical diſcoverer, has acknowledged, that the theory of phlogiſton, according to which all his reaſonings have been regulated ſince he began to give lectures, is now become much embarraſſed, in conſequence of the numerous diſcoveries which have lately been made; and that it does not afford ſuch clear and ſatisfactory explications of the phenomena of chemiſtry as Mr. Lavoiſier's theory, which is more ſimple and eaſily comprehenſible, and more cloſely connected with the new chemical facts.

Mr. Kirwan alſo, who has long been a ſtrenuous defender of the Stahlian doctrine, and has even publiſhed a treatiſe in its ſupport againſt Mr. Lavoiſier's opinions, has lately, with more ingenuouſneſs than falls to the lot of moſt men, candidly and openly acknowledged his error, and now ſubſcribes to the truth of thoſe very opinions he ſo lately publicly oppoſed.

THE

The Reader is requested to correct the following material typographical error, which has unaccountably been unnoticed in the present, as well as the former, editions of this work.

P. 205. column 2d. line 16. for—precipitated *by* nitrous acid,
read precipitated *from* nitrous acid.

DIRECTIONS FOR PLACING THE PLATES.

Plate I. N° 1. 2.	to be placed between	p. 80. and 81.
II. N° 1. 2.		84. and 85.
III. N° 1. 2.		88. and 89.

N. B. Cut none of the plates into single leaves; and be sure to observe the cancelled leaf.

THE EDINBURGH NEW DISPENSATORY.

PART I.

Elements of Pharmacy.

CHAPTER I.

A general View of the Properties and Relations of Medicinal Subſtances.

SECT. I.

Vegetables.

VEGETABLES are organized bodies, furniſhed with a variety of veſſels for the reception, tranſmiſſion, and perſpiration of different fluids. Analogous to animals, they are produced from ſeeds and eggs, and are endowed with functions, by which the aliment they imbibe is changed into new forms, into ſolids and fluids, peculiar to particular plants, and to different parts of the ſame plant.

The analogy between the vegetable and animal kingdoms will appear ſtill more ſtriking, when we conſider that the former exhibit, though in a leſs degree, all the phenomena of ſenſibility and motion.

The *pabulum* of vegetables, like that of moſt animals, is of a mixed nature; and is compoſed of the neceſſary union of water, heat, and light, and leſs neceſſarily of air and earth: the office of theſe two laſt elements, ſeems to be that of filtres, or vehicles for conveying the other principles in proper form.

From varieties in the ſtate and proportion of theſe ſeveral agents, a very multiplied diverſity takes place in the external form, quantity, and quality of one and the ſame vegetable: hence the difference of plants from the ſoil, climate, ſeaſon, and other ſimilar circumſtances. The influence of heat, and light, or what is probably the ſame thing, the abſorption of the inflammable principle, is perhaps the moſt important article in the aliment of vegetables. This principle, whether derived from the ſolar rays, from putrid matters employed in manure, or from

the putrefaction of the wild growth, aſſiſted by calcareous earths and other ſeptics, is found at all times to modify, in a peculiar manner, the form, the quantity, and even the ſenſible and inherent properties of vegetables. It is of importance however to remark, that the ſoundneſs and ſpecific principles of vegetables are not invariably the more complete in proportion to the vigour of their growth; high health, which is always a dangerous ſtate in the conſtitution of animals, is often the means of perverting or deſtroying the œconomy of vegetable life. Thus the finer aromatics, which naturally inhabit the dry and ſandy ſoils, when tranſplanted into a moiſt and rich one, or, in other words, when placed in mould abounding with the *fomites* of inflammable principle, grow with rapidity and vigour, and have their bulk conſiderably increaſed; but loſe very much of their fragrance, as if their active principles were exhauſted by the luxuriance of their growth.

Plants are alſo found to differ conſiderably in the different periods of their growth. Thus, ſome herbs in their infancy abound moſt with odoriferous matter; others again yield little or none till they have attained to a more advanced age. Many fruits, in their immature ſtate, contain an auſtere acid juice, which by maturation is changed into a ſweet one: others, as the orange, are firſt warm and aromatic, and afterwards by degrees become filled with a ſtrong acid. The common grain, and ſundry other ſeeds, when beginning to vegetate, are in taſte remarkably ſweet: yet the kernels of certain fruits prove, at the ſame period, extremely acid. The roots of ſome of our indigenous plants, whoſe juice is, during the ſummer, thin and watery, if wounded early in the ſpring, yield rich balſamic juices, which, expoſed to a gentle warmth, ſoon concrete into ſolid gummy-reſins, ſuperior to many of thoſe brought from abroad. In open expoſures, dry ſoils, and fair warm ſeaſons, aromatic plants become ſtronger and more fragrant, while thoſe of an oppoſite nature become weaker. To theſe particulars therefore due regard ought to be had in collecting plants for medicinal uſes.

It may be proper to obſerve alſo, that the different parts of one plant are often very different in quality from each other. Thus the bitter herb wormwood riſes from an aromatic root; and the narcotic popy-head includes ſeeds which have no narcotic power. Theſe differences, though very obvious in the common culinary plants, do not ſeem to have been ſufficiently obſerved or attended to, in thoſe plants that have been admitted as articles of the materia medica.

Without any obvious dependence on the circumſtances above mentioned, vegetables are, like animals, alſo obnoxious to diſeaſes and death; which, whether occaſioned by intenſe cold, by inſects, lightning, or other cauſes, always maintain a ſtriking analogy to the affections of animals. The principal difference between animals and vegetables is that the ſeveral parts of vegetables do not conſtitute ſuch a mutualy depending ſyſtem as thoſe of the more perfect animals: Hence it is, that a very conſiderable part of a plant may be diſeaſed or dead, while the reſt enjoys perfect good life and health. Though the phyſiology of vegetables is hitherto inſufficient for forming any complete doctrines of the cauſes and cure of their ſeveral diſeaſes; yet, in many caſes, it might be uſeful to attend to the formation of a pathology of the vegetable kingdom: in the ſtate even of our preſent knowledge, it is of importance in the ſtudy of pharmacy to be aware that ſuch diſeaſes really exiſt, and are capable of changing or

deſtroying

deſtroying the active principles of many of our moſt valuable herbs. In the plants more evidently ſenſitive, the diſeaſes exhibit a very cloſe analogy to many of thoſe of animals: ſeveral of the remote cauſes are ſuch as are known to obſtruct perſpiration, to induce general debility, or otherwiſe diſorder the animal œconomy. The diſeaſes alſo are evidently marked by a diminution of their ſenſitive and moving principle; and perhaps, in conſequence of this diminution, their ſolids, their ſap, and other fluids, ſhrivel and decay, and the whole plant aſſumes new forms, and is impregnated with inert, or fraught with noxious principles. Analogous alſo to animals, the plant, when deprived of the living principle, runs into all thoſe changes common to what is called inanimate matter. We ſhall now proceed to examine the changes to which vegetables are ſubject.

I. *Productions from Vegetables by* Fermentation.

Fermentation is a ſpontaneous motion excited in dead vegetables and animals, which is peculiar to thoſe organic ſubſtances in conſequence of the principle of vegetable or animal life.

The circumſtances favouring fermentation are in general, a certain degree of fluidity, a certain degree of heat, and the contact of the air.

There are however ſeveral ſubſtances, of themſelves not ſuſceptible of fermentation, which nevertheleſs may be brought into that ſtate by the admixture of thoſe that are; as by adding to them, along with a proper quantity of water, a portion of the yeſt or head thrown up to the ſurface of fermenting liquors. Without this expedient many vegetables would run immediately into the acetous, and ſome of them into the putrefactive fermentations. It is alſo found, that though acetous and putrefactive ferments are unable to ſtop the vinous fermentation, they are however capable of aſſimilating the liquor to their own nature in a more perfect form; and hence it is, that in the manufactures of wine, rum, and vinegar, it is found uſeful to keep the veſſels well ſeaſoned with the liquor intended to be prepared. Three different kinds or ſtages of fermentation have been generally diſtinguiſhed by chemiſts. The vinous, which furniſhes alcohol, or what is commonly called ſpirit; the acetous, which affords vinegar; and the putrefactive, which yields volatile alkali. Being generally conſtant in ſucceſſion to each other, the whole proceſs will be beſt underſtood by conſidering each of them apart. All vegetable ſubſtances are not capable of the vinous fermentation: the conditions neceſſary to its production are, a ſaccharo-mucilaginous matter; a fluidity ſomewhat viſcous, the proper degree of which is beſt learned from experience; a heat from 40 to 96 of Farenheit's thermometer; a conſiderable maſs of matter; and the acceſs of the external air.

The phenomena exhibited in the vinous fermentation are, a briſk tumultuary motion, the liquor loſes its tranſparency and homogeneous appearance, its bulk and heat are conſiderably increaſed, the ſolid parts are buoyed up to the top, and a great quantity of a permanently elaſtic fluid is diſengaged. This fluid or gas being heavier than atmoſpheric air, floats in ſeparate maſſes near the ſurface of the liquor; and is eaſily diſtinguiſhable from common air, by extinguiſhing flame and animal life, precipitating lime from limewater, cryſtalliſing and rendering mild the cauſtic alkali: is the

gas

gas ſylveſtre of Helmont, and the fixed air, aerial acid, or carbonic acid of modern chemiſts. After ſome time the tumultuary motion in the liquor is ſuddenly checked, perhaps from the generation of the alcohol; a fine ley is alſo precipitated; and the floating matter, if not purpoſely prevented, ſubſides to the bottom of the veſſel. In the wines produced from the grape, a large quantity of a ſaline concrete is incruſted on the ſides and bottom of the caſks; and this is commonly known by the name of tartar, the properties of which we ſhall afterwards examine. At the termination of theſe phenomena, the vegetable matter has aſſumed new properties; and from being a mild, ſweet, or gently acidulous infuſion, is now become the briſk pungent, and inebriating liquor, called Wine or Vinous Liquor.

Fermented or vinous liquors are prepared from a great variety of ſubſtances: the ſaccharine ſubſtances, or thoſe rendered ſo by a beginning vegetation, are in general fitteſt for the purpoſe; a multitude of collateral circumſtances are alſo neceſſary for the proper management of the proceſs; and in vinous liquors, great diverſities are obſervable. Theſe differences are not only obſervable in wines produced from different ſubſtances, but alſo in thoſe prepared from one and the ſame vegetable. Theſe diverſities may be referred to the different conditions of the ſubſtance to be fermented, to the ſtates of fluidity and heat, and to the degree of fermentation to which the ſubject has been carried. This laſt is principally modified by the preceding cauſes, and not unfrequently by very minute and apparently trifling circumſtances in the conduct of the operator. Hence the numerous varieties in the vinous liquors produced from the grape, which have been more peculiarly denomiated *wines*. It is an important part of pharmacy to enquire into theſe differences with care and attention.

The diverſity in vinous liquor is ſtill more obvious in thoſe produced from different vegetables. Many of the native qualities of the ſubſtances, as colour, taſte, flavour, &c. often remain in the wine; not being totally ſubdued by that degree of fermentation neceſſary for rendering the liquor vinous. Hence the remarkable difference of wines produced from the grape, and the graminous ſeeds: the wine produced from theſe laſt has been more ſtrictly called *beer*; and is well known to differ from wines produced from apples, pears, apricots, or any other fruit.

1. Of the Product of the Vinous Fermentation.

The product of all theſe fermented vegetables is, as we have juſt now mentioned, the pungent and intoxicating liquor called wine. It is proper, however, in pharmacy, to enquire into the different principles which enter its compoſition. As the wine furniſhed by grapes is the moſt valuable and generally known, we ſhall take it as an example. Grape-wine, then, is compoſed of a large quantity of water, of alcohol, of tartar, and of a colouring matter. It is proper, however, that we ſhould lay down the proofs of ſuch a combination in wine, and explain the methods by which it may be decompoſed and ſeparated into the conſtituent parts above mentioned.

For this purpoſe, recourſe is generally had to the aſſiſtance of the fire. The liquor is put into an alembic; and as ſoon as it boils, a white milky fluid, of a pungent ſmell and taſte, diſtils into the recipient. This fluid is called *aquavitæ*, or, in common language, *ſpirit*: it is compounded of water

water and certain matters capable of ſuſpenſion in water, of alcohol, and of a ſmall proportion of oil; which laſt communicates to it a milky colour: the yellow colour, afterwards aſſumed, is partly owing to the ſame oil, and partly to a ſolution of the extractive matter of the wooden caſks in which the aquavitæ has been kept. This aquavitæ, like wine, always partakes more or leſs of the flavour of the vegetable from whence it has been prepared; but by farther diſtillation, and other proceſſes, it is freed of its water, and of the native principles of the vegetable matter which the watery parts had kept in ſolution; when thus prepared, it is a pure *alcohol* or *inflammable ſpirit*, which is always the ſame from whatever vegetable the wine was produced.

After all the aquavitæ has been drawn off, the reſiduum now ceaſes to be wine; it is of a chocolate colour, of an acid and auſtere taſte; it has now aſſumed a heterogenous appearance, and a great quantity of ſaline cryſtals is obſerved in the liquor; theſe cryſtals are the *tartar*. By the above proceſſes, then, we have fully decompoſed *wine*: but it is to be obſerved, that by this analyſis we have not ſeparated the different parts of wine in their original and entire ſtate; nor are we hitherto acquainted with any method of regenerating the wine by recombining the aquavitæ with the reſiduum: ſome product of the fermentation is, therefore, changed or deſtroyed; and this product is probably ſome peculiar modification of fixed air or aerial acid. The reſiduum, when evaporated, aſſumes the form and conſiſtence of an extract; the colouring part may be abſtracted by rectified ſpirit of wine, but is not ſeparable from it by the addition of water: it ſeems therefore to be of a gummi-reſinous nature, and extracted from the grape by means of the alcohol generated during the fermentation.

From this analyſis, then, it is obvious, that wine is compoſed of water, colouring matter, alcohol, and a ſomething that is changed or loſt. We ſhall refer the particular examination of alcohol and tartar to the proper places aſſigned them in this work; and we hope that from this general ſurvey of the ſubject, the properties of wine, as a ſolvent of ſeveral medicinal ſubſtances to be afterwards examined, will be much more readily underſtood. Before we go farther, it is proper to add, that the *ley* precipitated from wine during fermentation, is a compound of ſtones, pieces of grape, tartar, and vitriolated tartar: the two firſt are inert bodies; the two laſt we ſhall particularly examine in their proper order. We are now prepared to conſider the nature and product of the next kind or ſtage of fermentation, viz. the

2. Acetous Fermentation.

To underſtand the proceſs of the acetous fermentation, we muſt leave for the preſent our analyſis of the product of the vinous fermentation, and return to the wine in its moſt perfect and entire ſtate. It is proper to obſerve, that though, after the liquor has become vinous, a partial ceſſation of the more obvious phenomena takes place, yet the wine ſtill ſuffers a ſlow and imperceptible degree of fermentation. We are not then to conſider the liquor as being in a quieſcent ſtate, but as conſtantly approaching to the next ſtage, viz. the *acetous fermentation*, which we are now to conſider. This kind of inſenſible fermentation, or what we may call

the

the intermediate change, ſeems to be neceſſary to the perfection of the wine. Its degree, however, is to be regulated under certain limitations: when too much checked, as by cold, thunder, or ſuch like cauſes, the wine becomes vapid; when too much encouraged by heat, contact of air, &c. it approaches too far to the acetous change: but in order that the vinous ſhall proceed fully to the acetous fermentation, ſeveral circumſtances are required; and theſe are in general the ſame that were before neceſſary to the vinous ſtage. Theſe conditions are, a temperate degree of heat, a quantity of unfermented mucilage, an acid matter, ſuch as tartar, and the free acceſs of external air. When thus ſituated, the liquor ſoon paſſes into the acetous fermentation: but during this ſtage the phenomena are not ſo remarkable as in the vinous; the motion of air is now leſs conſiderable, a groſs unctuous matter ſeparates to the bottom, the liquor loſes its vinous taſte and flavour, becomes ſour, and on diſtillation affords no inflammable ſpirit. It is now the acetous acid or vinegar; and when ſeparated by diſtillation from the unctuous ley, may be preſerved a conſiderable length of time without undergoing the putrid change: to this laſt, however, it always approaches in the ſame manner as the vinous conſtantly verges to the acetous fermentation; and this will much more readily happen if the acid be allowed to remain with the unctuous feculent matter above mentioned. When thus ſituated, the vinegar quickly loſes its tranſparency, aſſumes a blackiſh colour, loſes its ſourneſs and agreeable odour, has an offenſive taſte and ſmell, and, when diſtilled at a certain period of the proceſs, yields volatile alkali.

The liquor is now arrived to the laſt ſtage, viz.

3. The Putrefactive Fermentation.

From the preceding phenomena, it is obvious, that the ſame ſubſtance which is capable of the vinous and acetous, is alſo capable of the putrefactive fermentation. It is perhaps impoſſible to induce the firſt without a mixture of the ſecond; or the ſecond without a mixture of the third. Hence every wine is a little acid; and there are few vinegars without ſome diſpoſition towards putrefaction, or without volatile alkali, neutralized by the acid which predominates. Notwithſtanding this ſeeming continuation of one and the ſame proceſs, the putrefaction of vegetables has its particular phenomena. The vegetable matter, if in a fluid ſtate, becomes turbid, and depoſits a large quantity of feculent matter; a conſiderable number of air-bubbles are raiſed to the top; but their motion is not ſo briſk in the putrefactive as in the vinous, or even the acetous fermentation: neither the bulk nor heat of the liquor ſeems to be increaſed; but an acrid pungent vapour is perceived by the ſmell, and which, by chemical trials, is found to be the volatile alkali; by degrees this pungent odour is changed into one leſs pungent, but much more nauſeous. If the ſame train of phenomena have taken place in a vegetable conſiſting of parts ſomewhat ſolid, its coheſion is broke down into a ſoft pulpy maſs; this maſs, on drying, entirely loſes its odour, leaving a black, cherry-like reſiduum, containing nothing but earthy and ſaline ſubſtances.

It is proper to obſerve, that though the circumſtances favouring the putrefactive are the ſame with thoſe requiſite to the vinous and acetous fermentations, yet theſe ſeveral conditions are not ſo indiſpenſable to the former

former as to the two latter ſtages. All vegetables have more or leſs tendency to putrefaction, and a great number of them are capable of the acetous fermentation: but the proportion of thoſe capable of the vinous is not conſiderable; and theſe laſt will run into the putrid in circumſtances in which they cannot undergo the vinous or even the acetous fermentations. Thus flour made into a ſoft paſte will become ſour; but it muſt be perfectly diſſolved in water to make it fit for the vinous ſtage; whereas mere dampneſs is ſufficient to make it paſs to the putrid fermentation: beſides the condition of fluidity, a leſs degree of heat, and a more limited acceſs of air, are ſufficient for producing the putrefactive fermentation.

It is therefore probable, that all vegetables, in whatever ſtate they may be, are liable to a kind of putrefaction: in ſome the change is ſlow and gradual, but never fails at length to break down the texture and coheſion of the moſt ſolid.

We formerly obſerved, that the vapours ſeparated during the vinous fermentation were fixed air or aerial acid; and it is indeed true, that in the incipient ſtate of this fermentation a quantity of gas is ſtill evolved, and along with it a quantity of alkaline air: in the advanced ſtate, however, we find theſe vapours of a different nature; they now tarniſh ſilver, and render combinations of lead with the vegetable acids of black. When produced in large quantity, and much confined, as happens in ſtacks of hay put up wet, they burſt into actual flame, conſuming the hay to aſhes: on other occaſions, the eſcape of theſe vapours diſcovers itſelf by an emiſſion of light, as in the luminous appearance of rotten wood when placed in the dark. From the above phenomena it is evident, that theſe vapours abound with the principle of inflammability; and their odour probably depends on this principle looſely combined with the water, or ſome other parts of the volatiliſed matter. This gas is therefore different from that ſeparated during the vinous fermentation; it is the phlogiſticated, and ſometimes the inflammable air of Dr Prieſtly, or the hydrogen of of Lavoiſier.

We have thus, for the ſake of clearneſs, and in order to comprehend the whole of the ſubject, traced the phenomena of fermentation through its different ſtages: it is proper, however, to obſerve, that though every vegetable that has ſuffered the vinous will proceed to the acetous and putrefactive fermentations, yet the ſecond ſtage is not neceſſarily preceded by the firſt, nor the third by the ſecond; or in other words, the acetous fermentation is not neceſſarily confined to thoſe ſubſtances which have undergone the vinous, nor the putrefactive to thoſe which have undergone the acetous fermentation. Thus it is, that gums diſſolved in water paſs to the acetous without undergoing the vinous fermentation; and glutinous matter ſeems to run into putrefacton without ſhewing any previous aceſcence: and farther, theſe changes frequently happen although the matter be under thoſe conditions which are favourable to the preceding ſtages.

From the foregoing ſketch, the importance of this ſubject in the ſtudy of Pharmacy will be obvious at firſt ſight: it cannot, however, afford us any uſeful information on the native principles of vegetables; but it preſents to us new products, the importance of which is well known in chemiſtry, in medicine, and in arts. The neceſſity of being well acquainted with the ſeveral facts (for of theory we know none ſatisfactory), will appear

appear in the pharmaceutical history and preparation of many of our most valuable drugs. We are next to consider a set of no less complicated operations, viz.

II. *Productions from vegetables by* Fire.

In order to analyse, or rather to decompose vegetables by the naked fire, any given quantity of dry vegetable matter is put into a retort of glass or earth. Having filled the vessel about one half or two thirds, we place it in a reverbatory furnace, adapting it to a proper receiver. To collect the elastic fluids, which, if confined, would burst the vessels (and which, too, it is proper to preserve, as being real products of the analysis), we use a perforated receiver with a crooked tube, the extremity of which is received into a vessel full of water, or of mercury, and inverted in a bason containing the same fluid: by this contrivance, the liquid matters are collected in the receiver, and the aeriform fluids pass into the inverted vessel. If the vegetable is capable of yielding any saline matter in a concrete state, we interpose between the retort and the receiver another vessel, upon whose sides the salt sublimes. These things being properly adjusted, we apply at first a gentle heat, and increase it gradually, that we may observe the different products in proper order. At first an insipid watery liquor passes over, which is chiefly composed of the water of vegetation; on the heat being a little farther increased, this watery liquor, or *phlegm*, becomes charged with an oily matter, having the odour of the vegetable, if it possessed any in its entire state; along with this oil we also obtain an acid resembling vinegar, and which communicates to the oil somewhat of a saponaceous nature; on the heat being carried still farther, we procure more acid, with an oil of a dark colour, and the colour gradually deepens as the distillation advances. The oil now ceases to retain the peculiar odour of the vegetable; and, being scorched by the heat, sends forth a strong disagreeable smell like tar: it is then called *empyreumatic oil*. About this time also some elastic vapours rush into the inverted vessel; these generally consist of inflammable or fixed airs, and very often of a mixture of both; the volatile salt now also sublimes, if the vegetable was of a nature to furnish it. By the time the matter in the retort has acquired a dull red heat, nothing further will arise: we then stop; and allowing the vessel to cool, we find a mass of charcoal, retaining more or less the form and appearance of the vegetable before its decomposition.

We have thus described, in the order of their succession, the several products obtained from the generality of vegetables when analysed in close vessels and in a naked fire.

It is, however, to be understood, that the proportion of these principles turns out very various; the more succulent yield more water, and the more solid afford a greater quantity of the other principles. Independently also of this difference, the nature of the products themselves are found to differ in different vegetables: thus in the cruciform plants, and in the emulsive and farinaceous seeds, the saline matter which comes over with the water and oil is found to be alkaline; sometimes it is ammoniacal, from the combination of the acid with the volatile alkali passing over at the end of the process; it is also probable, that the acids of vegetables are not all of the same nature, though they exhibit the same external

nal marks. When volatile alkali is obtained, it is always found in the mild effervescing state; it is procured, however, from a few vegetables only; it is seldom in a concrete form, being generally dissolved in the phlegm; and as it ordinarily makes its appearance about the end of the process, it is probable that its formation is owing to some peculiar combination of the oil and fixed alkali. The plants containing much oily combustible matter seem to be those which more peculiarly yield inflammable air, while the mucilages appear to be as peculiarly fitted for affording the fixed air or aerial acid. The chemical properties of charcoal seem to be always the same from whatever vegetable it has been produced: on a minute examination (which, however, is not the business of pharmacy), it is found to consist of fixed air, the principle of inflammability, a small quantity of earth, saline matter, and a little water. The whole of the analysis then amounts to air, water, earth, and the principle of inflammability; for by repeated distillations the oil is resolved into water, the principle of inflammability, and a little earth; the saline matter also is a product arising from a combination of the earthy matter with water or the principle of inflammability, in some shape or other, or perhaps with both. That these combinations take place, has at least been the opinion of the chemists.

We formerly said that charcoal was partly composed of saline matter; it therefore remains that we should next decompose the charcoal, in order to obtain or separate the articles next to be mentioned.

The fixed Salts of Vegetables.

When vegetable charcoal has been burnt, there remains a quantity of ashes of cinders or a blackish grey or white colour: these, when boiled or infused in water, communicate to it a pungent saline taste; the salt thus held in solution may, by evaporation, be reduced to a concrete state: this saline matter, however, is generally found to be mixed with ferruginous, earthy, and other impurities, and likewise with a number of neutral salts of different kinds. In this mixed condition it is the

Potashes used in Commerce.

This salt, or rather compound of different salts, is procured by burning large quantities of wood of any kind; and this process is called *incineration:* the predominating salt, however, is alkaline; and as the neutral salts are obtained to better advantage by other means, they are generally neglected in the purification of potashes. Potashes, then, freed from its impurities, and separated from the other salts by processes to be hereafter mentioned, is now

The fixed vegetable Alkali.

Alkalies in general are distinguished by a pungent taste, the very reverse of that of fourness; by their destroying the acidity of every sour liquor; and by their changing the blue and red colours of vegetables to a green: they attract more or less the moisture of the air, and some of them deliquate. The fixed alkalies, which we shall at present consider more particularly, are fusible by a gentle heat: by a greater degree of heat they are dissipated; their fixity, therefore, is only relative to the other kind of alkalies, viz. the volatile: they dissolve and form glass

with earths; and, laſtly, when joined with acids to the point of ſaturation, they form what are called *Neutral Salts.*

Theſe characters will afford ſome neceſſary and preliminary knowledge of theſe ſubſtances in general; and we ſhall afterwards find that they are ſufficient to diſtinguiſh them from all other ſaline bodies: it is neceſſary, however, to examine them more minutely, and our analyſis has not yet reached ſo far as to preſent them in their ſimpleſt ſtate. Previous to the diſcoveries of Dr Black, the vegetable fixed alkali (which we at preſent ſpeak of particularly), when ſeparated from the foreign matters with which it is mixed in the aſhes, was conſidered to be in its pureſt ſtate; we ſhall afterwards find that it is ſtill a compound body, and is really a neutral ſalt, compounded of pure alkali, and fixed air or the aerial acid. We preſume, then, that the particular hiſtory of its chemical and medicinal properties will be better underſtood when we come to thoſe proceſſes by which it is brought to its moſt pure and ſimple ſtate. We ſhall only therefore obſerve for the preſent, that fixed vegetable alkali, not only in its pure ſtate, but alſo when neutraliſed by aerial acid, ſeems always to be one and the ſame thing, from whatever vegetable it has been produced. Thoſe of ſome ſea-plants muſt, however, be excepted: the ſaline matter obtained from theſe laſt is, like the former, in a mixed and impure ſtate; it differs, however, from potaſhes, in containing an alkali of ſomewhat different properties. The cinder of ſea-plants containing this alkali is called

Soda.

Soda, then, as we have juſt now hinted, is produced by the incineration of the kali and other ſea-plants: And from this impure and mixed maſs of cinder, is obtained the marine, mineral, or muriatic alkali, or natron, as it is now denominated by the London College. This alkali has acquired theſe names, becauſe it is the baſe of the common marine or ſea ſalt: it differs from the vegetable alkali in being more eaſily cryſtalizable; when dried, it does not like the former attract humidity ſufficient to form a liquid; it is ſomewhat leſs pungent to the taſte, and, according to Bergman, has leſs attraction for acids than the vegetable alkali.

It is, however, to be obſerved, that this alkali, when deprived of fixed air, that is to ſay, when brought to its pureſt ſtate, can ſcarcely, if at all, be diſtinguiſhed from the vegetable alkali; and indeed the true diſtinction can only be formed from their combinations, each of them affording with the ſame acid very different neutral ſalts. It belonged to this place to mention ſome of the characters of alkalies in general, and alſo ſome of thoſe marks by which the vegetable and mineral alkalies are diſtinguiſhed from each other; but for a more particular hiſtory of their chemical and medicinal properties, we refer to the account of their pharmaceutical preparations. As the volatile alkali is rarely produced from vegetables, but is generally obtained from animal matter, we ſhall conſider that kind of alkali when we come to analyſe the animal kingdom.

Of Vegetable Earth.

After all the ſaline matter contained in the aſhes of vegetables has been waſted off by the proceſſes before mentioned, there yet remains one inſipid

inſipid earthy-like powder, generally of a whitiſh colour, inſoluble in water, and from which ſome iron may be attracted by the magnet. It is ſaid to have formed alum with the vitriolic acid; a kind of ſelenite has alſo been obtained, but ſomewhat different from that produced by the union of the ſame acid with calcareous earth; this reſiduum of burnt vegetables differs alſo from calcareous earth, in not being ſuſceptible of becoming quicklime by calcination. It has been found that this reſiduum, inſtead of an earth, is a calcareous phoſphoric ſalt, ſimilar to that obtained from the bones of animals.

We have thus finiſhed our analyſis of vegetables by the naked fire; and have only to obſerve, that, like the analyſis by fermentation, it can afford us no uſeful information on the native principles of the vegetable itſelf.

When chemiſtry began firſt to be formed into a rational ſcience, and to examine the component parts and internal conſtitution of bodies, it was imagined, that this reſolution of vegetables by fire, diſcovering to us all their active principles, unclogged and unmixed with each other, would afford the ſureſt means of judging of their medicinal powers. But on proſecuting theſe experiments, it was ſoon found that they were inſufficient for that end: that the analyſes of poiſonous and eſculent plants agreed often as nearly as the analyſes of one plant: that by the action of a burning heat, two principles of vegetables are not barely ſeparated, but altered, tranſpoſed, and combined into new forms; inſomuch that it was impoſſible to know in what form they exiſted, and with what qualities they were endowed, before theſe changes and tranſpoſitions happened. If, for example, thirty-two ounces of a certain vegetable ſubſtance are found to yield ten ounces and a half of acid liquor, above one ounce and five drams of oil, and three drams and a half of fixed alkaline ſalt; what idea can this analyſis give of the medicinal qualities of *gum Arabic*?

III. Substances *naturally contained in Vegetables, and ſeparable by Art without Alteration of their native Qualities.*

It has been ſuppoſed, that there is one general fluid or blood which is common to all vegetables, and from which the fluids peculiar to particular plants and their parts are prepared by a kind of ſecretion: To this ſuppoſed general fluid botaniſts have given the name of *ſap*. This opinion is rendered plauſible from the analogy in many other reſpects between vegetable and animal ſubſtances: and indeed if we conſider the water of vegetation as this general fluid, the opinion is perhaps not very far from the truth; but the notion has been carried much farther than ſuppoſing it to be mere water, and the opinion of naturaliſts on this ſubject does not ſeem to be well ſupported by experience. It is difficult to extract this ſap without any mixture of their conſtituent parts. But in a few vegetables, from which it diſtils by wounding their bark, we find this ſuppoſed general blood poſſeſſing properties not a little various: Thus the juice effuſed from a wounded birch is conſiderably different from that poured out from an inciſion in the vine.

1. Groſs

1. Groſs Oils.

VEGETABLES, like animals, contain an oil in two different ſtates. That is, in ſeveral vegetables a certain quantity of oil is ſuperabundant to their conſtitution, is often lodged in diſtinct reſervoirs, and does not enter into the compoſition of their other principles: in moſt vegetables, again, another quantity of oil is combined, and makes a conſtituent part of their principles. Of this laſt we formerly ſpoke in our analyſis of vegetables by fire; and it is the former we mean to conſider, under the three following heads.

Groſs oils abound chiefly in the kernels of fruits, and in certain ſeeds; from which they are commonly extracted by expreſſion, and are hence diſtinguiſhed by the name of *Expreſſed Oils*. They are contained alſo in all the parts of all vegetables that have been examined, and may be forced out by vehemence of fire; but here their qualities are much altered in the proceſs by which they are extracted or diſcovered, as we have ſeen under the forgoing head.

Theſe oils, in their common ſtate, are not diſſoluble either in vinous ſpirits or in water, though by means of certain intermedia they may be united both with the one and the other. Thus a ſkilful interpoſition of ſugar renders them miſcible with water into what are called lohochs and oily draughts: by the intervention of gum or mucilage they unite with water into a milky fluid: by alkaline ſalts they are changed into a ſoap, which is miſcible both with water and ſpiritous liqours, and is perfectly diſſolved by the latter into an uniform tranſparent fluid. The addition of any acid to the ſoapy ſolution abſorbs the alkaline ſalt; and the oil, which of courſe ſeparates, is found to have undergone this remarkable change, that it now diſſolves without any intermedium in pure ſpirit of wine.

Expreſſed oils, expoſed to the cold, loſe their fluidity greatly: ſome of them, in a ſmall degree of cold, congeal into a conſiſtent maſs. Kept for ſome time in a warm air, they become thin and highly rancid: their ſoft, lubricating, and relaxing quality is changed into a ſharp acrimonious one: and in this ſtate, inſtead of allaying, they occaſion irritation; inſtead of obtunding corroſive humours, they corrode and inflame. Theſe oils are liable to the ſame noxious alteration while contained in the original ſubject: hence ariſes the rancidity which the oily ſeeds and kernels, as almonds and thoſe called the cold ſeeds, are ſo liable to contract in keeping. Nevertheleſs on triturating theſe ſeeds or kernels with water, the oil, by the intervention of the other matter of the ſubject, unites with the water into an emulſion or miky liquor, which, inſtead of growing rancid, turns ſour on ſtanding.

It appears then that ſome kind of fermentation goes on in the progreſs of oils in the rancid ſtate; and it would ſeem from ſome experiments by Mr Macquer, that an acid is evolved, which renders them more ſoluble in ſpirit of wine than before.

In the heat of boiling water, and even in a degree of heat as much exceeding this as the heat of boiling water does that of the human body, theſe oils ſuffer little diſſipation of their parts. In a greater heat they emit a pungent vapour, ſeemingly of the acid kind; and when ſuffered to grow cold again, they are found to have aquired a greater degree of conſiſtence than they had before, together with an acrid taſte. In a heat

heat approaching to ignition, in close vessels, the greatest part of the oil arises in an empyreumatic state, a black coal remaining behind.

2. Gross sebaceous Matter.

From the kernels of some fruits, as that of the chocolate nut, we obtain, instead of a fluid oil, a substance of a butyraceous consistence; and from others, as the nutmeg, a solid matter as firm as tallow. These concrets are most commodiously extracted by boiling the substance in water: the sebaceous matter, liquefied by the heat, separates and arises to the surface, and resumes its proper consistence as the liquor cools.

The substances of this class have the same general properties with expressed oils, but are less disposed to become rancid in keeping than most of the common fluid oils. It is supposed by the chemists, that their thick consistence is owing to a larger admixture of an acid principle: for, in their resolution by fire, they yield a vapour more sensibly acid than the fluid oils; and fluid oils, by the admixture of concentrated acids, are reduced to a thick or solid mass.

3. Essential Oils.

Essential oils are obtained only from those vegetables, or parts of vegetables, that are considerably odorous. They are the direct principle, in which the odour, and oftentimes the warmth, pungency, and other active powers of the subject, reside; whence their name of *Essences* or *Essential Oils*.

Essential oils are secreted fluids; and are often lodged in one part of the plant, while the rest are entirely void of them. Sometimes they are found in separate spaces or receptacles; and are there, visible by the naked eye: thus, in the rind of lemons, oranges, citrons, and many others, there are placed every where small pellucid vesicles, which, by pressing the peel near to the flame of a candle, squirt out a quantity of essential oil, forming a stream of lambent flame; hence, too, an oleo-saccharum may be made, by rubbing the exterior surface of these peels with a piece of lump sugar, which at once tears open these vesicles, and absorbs their contained oil.

Essential oils unite with rectified spirit of wine, and compose with it one homogenous transparent fluid; though some of them require for this purpose a much larger proportion of the spirit than others. The difference of their solubility perhaps depends on the quantity of disengaged acid; that being found by Mr Macquer not only to promote the solution of essential oils, but even of those of the unctuous kind. Water also, though it does not dissolve their whole substance, may be made to imbibe some portion of their more subtile matter, so as to become considerably impregnated with their flavour; by the admixture of sugar, gum, the yolk of an egg, or alkaline salts, they are made totally dissoluble in water. Digested with volatile alkali, they undergo various changes of colour, and some of the less odorous acquire considerable degrees of fragrance; while fixt alkali universally impairs their odour.

The specific gravity of most of these oils is less than that of water: some of them, however, are so heavy as to sink in water; but these varieties shall be noticed when we come to their preparation.

In the heat of boiling water, these oils totally exhale; and on this principle

principle they are commonly extracted from ſubjects that contain them; for no other fluid, which naturally exiſts in vegetables, is exhalable by that degree of heat, excepting the aqueous moiſture, from which greateſt part of the oil is eaſily ſeparated. Some of theſe oils ariſe with a much leſs heat, a heat little greater than that in which water begins viſibly to evaporate. In their reſolution by a burning heat, they differ little from expreſſed oils.

Eſſential oils, expoſed for ſome time to a warm air, ſuffer an alteration very different from that which the expreſſed undergo. Inſtead of growing thin, rancid, and acrimonious, they gradually become thick, and at length harden into a ſolid brittle concrete; with a remarkable diminution of their volatility, fragrancy, pungency, and warm ſtimulating quality. In this ſtate, they are found to conſiſt of two kinds of matter; a fluid oil, volatile in the heat of boiling water, and nearly of the ſame quality with the original oil; and of a groſſer ſubſtance which remains behind, not exhalable without a burning heat, or ſuch as changes its nature, and reſolves it into an acid, an empyreumatic oil, and a black coal.

The admixture of a concentrated acid inſtantly produces, in eſſential oils, a change nearly ſimilar to that which time effects. In making theſe kinds of mixtures, the operator ought to be on his guard; for when a ſtrong acid, particularly that of nitre, is poured haſtily into an eſſential oil, a great heat and ebullition enſue, and often an exploſion happens, or the mixture burſts into flame. The union of expreſſed oils with acids is accompanied with much leſs conflict.

4. Concrete eſſential Oil.

Some vegetables, as roſes and elecampane root, inſtead of a fluid eſſential oil, yield a ſubſtance poſſeſſing the ſame general properties, but of a thick or ſebaceous conſiſtence. This ſubſtance appears to be of as great volatility and ſubtility of parts, as the fluid oils: it equally exhales in the heat of boiling water, and concretes upon the ſurface of the collected vapour. The total exhalation of this matter, and its concreting again into its original conſiſtent ſtate, without any ſeparation of it into a fluid and a ſolid part, diſtinguiſhes it from eſſential oils that have been thickened or indurated by age or by acids.

5. Camphor.

Camphor is a ſolid concrete, obtained chiefly from the woody parts of certain Indian trees. It is volatile like eſſential oils, and ſoluble both in oils and inflammable ſpirits: it unites freely with water by the intervention of gum, but very ſparingly and imperfectly by the other intermedia that render oils miſcible with watery liquors. It differs from the ſebaceous as well as fluid eſſential oils, in ſuffering no ſenſible alteration from long keeping; in being totally exhalable, not only by the heat of boiling water, but in a warm air, without any change or ſeparation of its parts, the laſt particle that remains unexhaled appearing to be of the ſame nature with the original camphor: in its receiving no empyreumatic impreſſion, and ſuffering no reſolution, from any degree of fire to which it can be expoſed in cloſe veſſels, though readily combuſtible in the open air; in being diſſolved by concentrated acids into a liquid form; and in ſeveral other properties which it is needleſs to ſpecify in this place.

6. Reſin.

6. Reſin.

Essential oils, indurated by age or acids, are called *Reſins*. When the indurated maſs has been expoſed to the heat of boiling water, till its more ſubtile part, or the pure eſſential oil that remained in it, has exhaled, the groſs matter left behind is likewiſe called reſin. We find, in many vegetables, reſins analogous both to one and the other of theſe concretes; ſome containing a ſubtile oil, ſeparable by the heat of boiling water; others containing nothing that is capable of exhaling in that heat.

Reſins in general diſſolve in rectified ſpirit of wine, though ſome of them much more difficultly than others: it is chiefly by means of this diſſolvent that they are extracted from the ſubjects in which they are contained. They diſſolve alſo in oils both expreſſed and eſſential; and may be united with watery liquors by means of the ſame intermedia which render the fluid oils miſcible with water. In a heat leſs than that of boiling water, they melt into an oily fluid; and in this ſtate they may be incorporated one with another. In their reſolution by fire, in cloſe veſſels, they yield a manifeſt acid, and a large quantity of empyreumatic oil.

7. Gum.

Gum differs from the foregoing ſubſtances in being uninflammable: for though it may be burnt to a coal, and thence to aſhes, it never yields any flame. It differs remarkably alſo in the proportion of the principles into which it is reſolved by fire; the quantity of empyreumatic oil being far leſs, and that of an acid far greater. In the heat of boiling water, it ſuffers no diſſipation: nor does it liquefy like reſins; but continues unchanged, till the heat be ſo far increaſed as to ſcorch or turn it to a coal.

By a little quantity of water, it is ſoftened into a viſcous adheſive maſs, called mucilage: by a larger quantity it is diſſolved into a fluid, which proves more or leſs glutinous according to the proportion of gum. It does not diſſolve in vinous ſpirits, or in any kind of oil: nevertheleſs, when ſoftened with water into a mucilage, it is eaſily miſcible both with the fluid oils and with reſins; which by this means become ſoluble in watery liquors along with the gum, and are thus excellently fitted for medicinal purpoſes.

This elegant method of uniting oils with aqueous liquors, which has been kept a ſecret in few hands, appears to have been known to Dr Grew. "I took (ſays he) oil of aniſeeds, and pouring it upon *another* "*body*, I ſo ordered it, that it was thereby turned into a perfect milk-"white balſam or butter; by which means the oil became mingleable "with any vinous or watery liquor, eaſily and inſtantaneouſly diſſolving "therein in the form of a milk. And note, this is done without the "leaſt alteration of the ſmell, taſte, nature, or operation of the ſaid oil. "By ſomewhat the ſame means any other ſtillatitious oil may be tranſ-"formed into a milk-white butter, and in like manner be mingled with "water or any other liquor: which is of various uſe in medicine, and "what I find oftentimes very convenient and advantageous to be done." (*Grew of Mixture, chap.* v. *inſt.* i. § 7.) This inquiry has lately been further proſecuted in the firſt volume of the Medical Obſervations publiſhed by a ſociety of phyſicians in London; where various experiments

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are related, for rendering oils, both eſſential and expreſſed, and different unctuous and reſinous bodies, ſoluble in water by the mediation of gum. Mucilages have alſo been uſed for ſuſpending crude mercury, and ſome other ponderous and inſoluble ſubſtances: the mercury is by this means not a little divided; but it is found that the particles are very apt to run together or ſubſide, if a pretty conſtant agitation be not kept up.

As oily and reſinous ſubſtances are thus united to water by the means of gum, ſo gums may in like manner be united to ſpirit of wine by the intervention of reſins and eſſential oils; though the ſpirit does not take up near ſo much of the gum as water does of the oil or reſin.

Acid liquors, though they thicken pure oils, or render them conſiſtent, do not impede the diſſolution of gum, or of oils blended with gum. Alkaline ſalts, on the contrary, both fixt and volatile, though they render pure oils ſoluble in water, prevent the ſolution of gum, and of mixtures of gum and oil. If any pure gum be diſſolved in water, the addition of any alkali will occaſion the gum to ſeparate, and fall to the bottom in a conſiſtent form; if any oily or reſinous body was previouſly blended with the gum, this alſo ſeparates, and either ſinks to the bottom, or riſes to the top, according to its gravity.

8. Gum-reſin.

By gum-reſin is underſtood a mixture of gum and reſin. Many vegetables contain mixtures of this kind, in which the component parts are ſo intimately united, with the interpoſition perhaps of ſome other matter, that the compound, in a pharmaceutical view, may be conſidered as a diſtinct kind of principle; the whole maſs diſſolving almoſt equally in aqueous and in ſpiritous liquors; and the ſolutions being not turbid or milky, like thoſe of the groſſer mixtures of gum and reſin, but perfectly tranſparent. Such is the aſtringent matter of biſtort-root, and the bitter matter of gentian. It were to be wiſhed that we had ſome particular name for this kind of matter; as the term Gum-reſin is appropriated to the groſſer mixtures, in which the gummy and reſinous part are but looſely joined, and eaſy ſeparable from each other.

We ſhall afterwards find that it will be convenient to imitate this natural combination by art. As the effects of medicines very generally depend on their ſolubility in the ſtomach, it is often neceſſary to bring their more inſoluble parts, ſuch as reſinous and oily matters, into the ſtate of gum-reſin: this is done, as we have mentioned in the former article, by the mediation of mucilage. By this management theſe matters become much more ſoluble in the ſtomach; and the liquor thus prepared is called an emulſion, from its whitiſh colour, reſembling that of milk.

9. Saline Matter.

Of the ſaline juices of vegetables there are different kinds, which have hitherto been but little examined: the ſweet and the acid ones are the moſt plentiful and the beſt known.

There have lately, however, been diſcovered a conſiderable variety of ſalts in different vegetables. The mild fixed alkali, which was formerly conſidered as a product of the fire, has been obtained from almoſt all plants by macerating them in acids; the vegetable alkali is the moſt common, but the mineral is alſo found in the marine plants. Beſides

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fixed alkali, several other salts have been detected in different vegetables; such as vitriolated tartar, common salt, Glauber's salt, nitre, febrifuge salt, and selenite. From some experiments, too, the volatile alkali has been supposed to exist ready formed in many plants of the cruciform or tetradynamian tribe.

It is, however, to be understood, that though some of these salts are really products of vegetation, others of them are not unfrequently adventitious, being imbibed from the soil without any change produced by the functions of the vegetable.

The juices of vegetables, exposed to a heat equal to that of boiling water, suffer generally no other change than the evaporation of their watery parts; the saline matter remaining behind, with such of the other fixed parts as were blended with it in the juice. From many plants, after the exhalation of great part of the water, the saline matter gradually separates in keeping, and concretes into little solid masses, leaving the other substances dissolved or in a moist state; from others, no means have yet been found of obtaining a pure concrete salt.

The salts more peculiarly native and essential to vegetables are the sweet and the sour: these two are frequently blended together in the same vegetable, and sometimes pass into each other at different ages of the plant. Of the four salts several kinds are known in pharmacy and in the arts; such as those of sorrel, of lemons, oranges, citrons, &c. The saccharine salts are also obtained from a great number of vegetables; they may in general be easily discovered by their sweet taste: the sugar-cane is the vegetable from which this saline matter is procured in greatest quantity, and with most profit in commerce. For its medicinal and chemical properties we refer to the article SUGAR.

The sweet and sour salts above mentioned dissolve not only in water, like other saline bodies, but many of them, particularly the sweet, in rectified spirit also. The gross oily and gummy matter, with which they are almost always accompanied in the subject, dissolves freely along with them in water, but is by spirit in great measure left behind. Such heterogeneous matters as the spirit takes up, are almost completely retained by it, while the salt concretes; but of those which water takes up, a considerable part always adheres to the salt. Hence essential salts, as they are called, prepared in the common manner from the watery juices of vegetables, are always found to partake largely of the other soluble principles of the subject; while those extracted by spirit of wine are more pure. By means of rectified spirit, some productions of this kind may be freed from their impurities. Perfect saccharine concretions obtained from many of our indigenous sweets may be thus purified.

There is another kind of saline matter obtained from some resinous bodies, particularly from benzoin, which is of a different nature from the foregoing, and supposed by some of the chemists to be a part of the essential oil of the resin, coagulated by an acid, with the acid more predominant or more disengaged, than in the other kinds of coagulated or indurated oils. These concretes dissolve both in water and in vinous spirits, though difficultly and sparingly in both: They shew several evident marks of acidity, have a smell like that of the resin from which they are obtained,

exhale in a heat equal to that of boiling water, or a little greater, and are inflammable in the fire.

10. Farina or Flour.

This ſubſtance partakes of the nature of gum, but has more taſte, is more fermentable, and much more nutritive. It abounds in very many vegetables, and is generally depoſited in certain parts, ſeemingly for the purpoſe of its being more advantageouſly accommodated to their nouriſhment and growth. Several of the bulbous and other roots, ſuch as thoſe of potatoes, briony, thoſe from which caſſava is extracted, ſalep, and many others, contain a great quantity of a white *fæculæ* reſembling and really poſſeſſing the properties of farina. The plants of the leguminous tribe, ſuch as peas and beans, are found alſo to abound with this matter. But the largeſt quantity of farina reſides in grains, which are therefore called *farinaceous*. Of this kind are wheat, rye, barley, oats, rice, and other ſimilar plants.

At firſt ſight farina appears to be one homogenous ſubſtance: it is, however, found to be a compound of three different and ſeparable parts. To illuſtrate this, we ſhall take as an example the farina of wheat, being the vegetable which affords it in greateſt quantity, and in its moſt perfect ſtate. To ſeparate theſe different parts, we form a paſte with any quantity of flour and cold water; we ſuſpend this paſte in a bag of muſlin or ſuch like cloth; we next let fall on it a ſtream of cold water from ſome height, and the bag may now and then be very gently ſqueezed; the water in its deſcent carries down with it a very fine white powder, which is received along with the water in a veſſel placed below the bag: The proceſs muſt be continued till no more of this white powder comes off, which is known by the water that paſſes through the bag ceaſing to be of a milky colour. The proceſs being now finiſhed, the farina is found to be ſeparated into three different ſubſtances: the glutinous or vegeto-animal part remains in the bag; the amylum or ſtarch is depoſited from the water which has been received in the veſſel placed below the bag; and, laſtly, a mucous matter is held diſſolved in the ſame water from which the ſtarch has been depoſited: This mucous part may be brought to the conſiſtence of honey, by evaporating the water in which it is kept in ſolution.

Theſe ſeveral parts are found alſo to differ remarkably in their ſenſible and chemical properties. The vegeto-animal part is of a whitiſh grey colour, is a tenacious, ductile, and elaſtic matter, partly poſſeſſing the texture of animal membranes. Diſtilled in a retort, it yields, like all animal matters, a true volatile alkali; and its coal affords no fixed alkali. It is not only inſoluble, but even indiffuſible, in water; both which appear from its remaining in the bag after long-continued lotions. Like gums, it is inſoluble in alcohol, in oils, or æther; but it is alſo inſoluble in water, and yields on diſtillation products very different from thoſe afforded by gums: It is therefore of an animal nature, and approaches perhaps nearer to the coagulable lymph of animals than to any other ſubſtance.

The fixed alkali, by means of heat, diſſolves the gluten vegeto-animale, but

but when it is precipitated from this ſolution by means of acids, it is found to have loſt its elaſticity. The mineral acids, and eſpecially the nitrous, are alſo capable of diſſolving the vegeto-animal part of the farina.

The ſtarch, amylum, or the amylaceous matter, makes the principal part of the farina. As we before noticed, it is that fine powder depoſited from the water which has pervaded the entire farina: it is of a greyiſh white colour, but can be rendered much whiter by making it undergo a certain degree of fermentation. Starch is inſoluble in cold water; but in hot water it forms a tranſparent glue: hence the neceſſity of employing cold water in ſeparating it from the vegeto-animal part. Diſtilled in a retort, it yields an acid phlegm; and its coal affords, like other vegetables, a fixed alkaline ſalt. As ſtarch forms the greateſt part of the farina, it is probably the principal nutritive conſtituent in bread.

The mucous, or rather the mucoſo-ſaccharine matter, is only in a very ſmall quantity in bread. This ſubſtance on diſtillation is found to exhibit the phenomena of ſugar. The uſe of this matter ſeems to be that of producing the vinous fermentation: and we may obſerve once for all, that the preparation of good bread probably depends on a proper proportion of the three different parts above deſcribed; viz. that the vinous fermentation is promoted by the mucoſo-ſaccharine part, the acetous by the ſtarch, and the putrid by the gluten vegeto-animale. From different ſtates or degrees of theſe ſeveral ſtages of fermentation the qualities of good bread are probably derived. What remains on this very important ſubject will be taken up when we come to ſpeak of wheat in the Materia Medica.

11. Of the Colouring Matter of Vegetables.

The colouring matter of vegetables ſeems to be of an intermediate nature between the gummy and reſinous parts. It is in many plants equally well extracted by water and by rectified ſpirit: it is alſo, however, procurable in the form of a *lake*, not at all ſoluble in either of theſe menſtrua. It would ſeem that the colouring matter, ſtrictly ſo called, has hitherto eluded the reſearches of chemiſts. It is only the *baſe* or *nidus*, in which the real colouring matter is embodied, that chemiſtry has as yet reached; and on the chemical properties of this *baſe*, colours are capable of being extracted by different menſtrua, and of being variouſly accommodated to the purpoſes of dying. The ſubſtance from which the colours of vegetables are *immediately* derived, is without doubt a very ſubtile body. Since plants are known to loſe their colour when excluded from the light of the ſun, there is reaſon to think that the *immediately* colouring ſubſtance is primarily derived from the matter of the ſun, ſomewhat elaborated by vegetable life.

Many of theſe dyes are evolved or variouſly modified by chemical operations. Thus a colouring matter is ſomewhat depoſited in the form of a *fæcula* during the putrefaction of the vegetable; in others it is evolved or changed by alum, by acids, or by alkali. We may alſo obſerve, that any part of the vegetable may be the baſe of the colouring matter. This appears from the ſolubility of the different dyes in their proper menſtrua; and in theſe ſolutions we have not been able to ſeparate the real colouring matter from the baſe in which it is inviſcated. After all, then,

we muſt conclude, that a full inveſtigation of this ſubject more properly belongs to the ſublimer parts of chemiſtry, than to the buſineſs in which we are at preſent engaged.

The colouring drugs will be conſidered in their proper places.

In finiſhing our hiſtory of the vegetable kingdom, it only remains that we ſhould offer ſome

General Obſervations on the foregoing Principles.

1. ESSENTIAL oils, as already obſerved, are obtainable only from a few vegetables: but groſs oil, reſin, gum, and ſaline matter, appear to be common, in greater or leſs proportion, to all; ſome abounding more with one, and others with another.

2. The ſeveral principles are in many caſes intimately combined: ſo as to be extracted together from the ſubject, by thoſe diſſolvents, in which ſome of them ſeparately could not be diſſolved. Hence watery infuſions and ſpiritous tinctures of a plant, contain, reſpectively, more ſubſtances than thoſe of which water or ſpirit is the proper diſſolvent.

3. After a plant has been ſufficiently infuſed in water, all that ſpirit extracts from the reſiduum may be conſidered as conſiſting wholly of ſuch matter as directly belongs to the action of ſpirit. And, on the contrary, when ſpirit is applied firſt, all that water extracts afterwards may be conſidered as conſiſting only of that matter of which water is the direct diſſolvent.

4. If a vegetable ſubſtance, containing all the principles we have enumerated, be boiled in water, the eſſential oil, whether fluid or concrete, and the camphor, and volatile eſſential ſalt, will gradually exhale with the ſteam of the water, and may be collected by receiving the ſteam in proper veſſels placed beyond the action of the heat. The other principles not being volatile in this degree of heat, remain behind: the groſs oil and ſebaceous matter float on the top: the gummy and ſaline ſubſtance, and a part of the reſin, are diſſolved by the water, and may be obtained in a ſolid form by ſtraining the liquor, and expoſing it to a gentle heat till the water has exhaled. The reſt of the reſin, ſtill retained by the ſubject, may be extracted by ſpirit of wine, and ſeparated in its proper form by exhaling the ſpirit. On theſe foundations, moſt of the ſubſtances contained in vegetables may be extracted, and obtained in a pure ſtate, however they may be compounded together in the ſubject.

5. Sometimes one or more of the principles is found naturally diſſengaged from the others, lying in diſtinct receptacles within the ſubject, or extravaſated and accumulated on the ſurface. Thus, in the dried roots of angelica, cut longitudinally, the microſcope diſcovers veins of reſin. In the flower-cups of hypericum, and the leaves of the orange-tree, tranſparent points are diſtinguiſhed by the naked eye: which, at firſt view, ſeem to be holes, but on a cloſer examination are found to be little veſicles filled with eſſential oil. In the bark of the fir, pine, larch, and ſome other trees, the oily receptacles are extremely numerous, and ſo copiouſly ſupplied with the oily and reſinous fluid, that they frequently burſt, eſpecially in the warm climates, and diſcharge their contents in great quantities. The Acacia tree in Egypt, and the plumb and cherry among ourſelves, yield almoſt pure gummy exudations. From a ſpecies of aſh is

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ſecreted the ſaline ſweet ſubſtance manna; and the only kind of ſugar with which the antients were acquainted, appears to have been a natural exudation from the cane.

6. The foregoing principles are, as far as is known, all that naturally exiſt in vegetables; and all that art can extract from them, without ſuch operations as change their nature, and deſtroy their original qualities. In one or more of theſe principles, the colour, ſmell, taſte, and medicinal virtues, of the ſubject, are almoſt always found concentrated.

7. In ſome vegetables, the whole medicinal activity reſides in one principle. Thus, in ſweet almonds, the only medicinal principle is a groſs oil; in horſe-radiſh root, an eſſential oil; in jalap root, a reſin; in marſh-mallow root, a gum; in the leaves of ſorrel, a ſaline acid ſubſtance.

8. Others have one kind of virtue reſiding in one principle, and another in another. Thus Peruvian bark has an aſtringent reſin, and a bitter gum; wormwood, a ſtrong-flavoured eſſential oil, and a bitter-gum-reſin.

9. The groſs inſipid oils and ſebaceous matters, the ſimple inſipid gums, and the ſweet and acid ſaline ſubſtances, ſeem to agree both in their medicinal qualities, and in their pharmaceutic properties.

10. But eſſential oils, reſins, and gum-reſins, differ much in different ſubjects. As eſſential oils are univerſally the principle of odour in vegetables, it is obvious that they muſt differ in this reſpect as much as the ſubjects from which they are obtained. Reſins frequently partake of the oil, and conſequently of the differences depending on it; with this further diverſity, that the groſs reſinous part often contains other powers than thoſe which reſide in oils. Thus from wormwood a reſin may be prepared, containing not only the ſtrong ſmell and flavour, but likewiſe the whole bitterneſs of the herb; from which laſt quality the oil is entirely free. The bitter, aſtringent, purgative, and emetic virtue of vegetables, reſide generally in different ſorts of reſinous matter, either pure or blended with gummy and ſaline parts; of which kind of combinations there are many ſo intimate, that the component parts can ſcarcely be ſeparated from each other, the whole compound diſſolving almoſt equally in aqueous and ſpirituous menſtrua.

11. There are ſome ſubſtances alſo, which, from their being totally ſoluble in water, and not in ſpirit, may be eſteemed to be mere gums; but which, nevertheleſs, poſſeſs virtues never to be found in the ſimple gums. Such are the aſtringent gum called *acacia*, and the purgative gum extracted from aloes.

12. It is ſuppoſed that vegetables contain certain ſubtile principles different in different plants, of too great tenuity to be collected in their pure ſtate, and of which oils, gums, and reſins are only the matrices or vehicles. This inquiry is foreign to the purpoſes of pharmacy, which is concerned only about groſſer and more ſenſible objects. When we obtain from an odoriferous plant an eſſential oil, containing in a ſmall compaſs the whole fragrance of a large quantity of the ſubject, our intentions are equally anſwered, whether the ſubſtance of the oil be the direct odorous matter, or whether it has diffuſed through it a fragrant principle more ſubtile than itſelf. And when this oil, in long keeping, loſes its odour, and becomes a reſin, it is equal in regard to the preſent

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conſiderations, whether the effect happens from the avolation of a ſubtile principle, or from a change produced in the ſubſtance of the oil itſelf.

SECT. II.

ANIMALS.

FROM the hiſtory we have already given of the vegetable kingdom, our details on animal ſubſtances may, in many particulars, be conſiderably abridged. All animals are fed on vegetables, either directly or by the intervention of other animals. No part of their ſubſtance is derived from any other ſource except water. The ſmall quantity of ſalt uſed by man and ſome other animals, is only neceſſary as a ſeaſoning or ſtimulus to the ſtomach. As the animal then is derived from the vegetable matter, we accordingly find that the former is capable of being reſolved into the ſame principles as thoſe of the latter. Thus, by repeated diſtillations, we obtain from animal ſubſtances, water, oil, air, an eaſily deſtructible ſalt, and charcoal. Theſe ſecondary principles are by farther proceſſes at length reſoluble into the ſame proximate principles which we found in vegetables, viz. water, air, earth, and the principle of inflammability. But though the principles of vegetable and animal ſubſtances are fundamentally the ſame, yet theſe principles are combined in a very different manner. It is exceedingly rare that animal ſubſtances are capable of the vinous or acetous fermentations; and the putrefactive, into which they run remarkably faſt, is alſo different in ſome particulars from the putrefaction of vegetables; the eſcape of the phlogiſton in the form of light is more evident, and the ſmell is much more offenſive, in the putrefaction of animal than of vegetable ſubſtances. The putrefaction of urine is indeed accompanied with a peculiar fetor, by no means ſo intollerable as that of other animal matters: this we ſuppoſe to be owing to the pungency derived from the volatile alkali, and alſo to the urine containing leſs inflammable matter than the blood and many other fluids. When analyſed by a deſtructive heat, animals afford products very different from thoſe of vegetables: the empyreumatic oil has a particular, and much more fetid odour; and the volatile ſalt, inſtead of being an acid, as it is in moſt vegetables, is found in animals to be a volatile alkali. Chemiſts have ſpoken of an acid procurable from animal ſubſtances; and indeed certain parts of animal bodies are found to yield a ſalt of this kind; but it by no means holds with animal ſubſtances in general; and though the proofs to the contrary were even concluſive, it is confeſſedly in ſo ſmall a quantity as not to deſerve any particular regard. In ſome animals, however, an acid exiſts, uncombined and ready formed in their bodies. This is particularly manifeſt in ſome inſects, eſpecially ants, from which an acid reſembling the acetous has been procured by boiling them in water. The ſolid parts of animal bodies, as the muſcles, teguments, tendons, cartilages, and even the bones, when boiled with water, give a gelatinous matter or *glue* reſembling the vegetable gums, but much more adheſive. We muſt, however, except the horny parts and the hair, which ſeem to be little ſoluble either in water or in the liquors of the ſtomach. The acids, the alkalies, and quicklime, are alſo found to be powerful ſolvents of animal matters.

matters. It is from the ſolid parts that the greateſt quantity of volatile alkali is obtained; it ariſes along with a very fetid empyreumatic oil, from which it is in ſome meaſure ſeparated by repeated rectifications. This ſalt is partly in a fluid, and partly in a concrete ſtate; and from its having been antiently prepared in the greateſt quantity from the horns of the hart, it has been called *ſalt* or *ſpirit of hartſhorn*. Volatile alkali is, however, procurable from all animals, and from almoſt every part of animal-bodies, except fat. Tho' we are ſometimes able to procure fixed alkali from an animal cinder, yet it is probable that this ſalt did not make any part of the living animal, but rather proceeded from the introduction of ſome ſaline matter, incapable of being aſſimilated by the functions of the living creature.

In ſpeaking of the fluid parts of animals, we ſhould firſt examine the general fluid, or blood, from whence the reſt are ſecreted. The blood, which at firſt ſight appears to be an homogeneous fluid, is compoſed of ſeveral parts, eaſily ſeparable from each other, and which the microſcope can even perceive in its uncoagulated ſtate. On allowing it to ſtand at reſt, and to be expoſed to the air, it ſeparates into what are called the *craſſamentum* and the *ſerum*. The craſſamentum, or cruor, chiefly conſiſts of the red globules, joined together by another ſubſtance, called the coagulable lymph: the chemical properties of theſe globules are not as yet underſtood; but they ſeem to contain the greateſt quantity of the iron found in the blood. The ſerum is a yellowiſh ſub-viſcid liquor, having little ſenſible taſte or ſmell: at a heat of 160 of Farenheit, it is converted into a jelly. This coagulation of the ſerum is alſo owing to its containing a matter of the ſame nature with that in the craſſamentum, viz. the coagulable lymph: whatever, then, coagulates animal blood, produces that effect on this concreſcible part. Several cauſes, and many different ſubſtances, are capable of effecting this coagulation; ſuch as contact of air, heat, alcohol, mineral acids, and their combinations with earths, as alum, and ſome of the metallic ſalts. The more perfect neutral ſalts are found to prevent the coagulation, ſuch as common ſalt and nitre.

Of the fluids ſecreted from the blood, there are a great variety in men and other animals. The excrementitious and redundant fluids are thoſe which afford in general the greateſt quantity of volatile alkali and empyreumatic oil: there are alſo ſome of the ſecreted fluids, which, on a chemical analyſis, yield products in ſome degree peculiar to themſelves. Of this kind is the urine, which is found to contain in the greateſt abundance the noted ſalt formed from the phoſphoric acid and volatile alkali. The fat, too, has been ſaid to differ from the other animal matters, in yielding by diſtillation a ſtrong acid, but no volatile alkali. There is alſo much variety in the quantity and ſtate of the combination of the ſaline and other matters in different ſecreted fluids: but for a fuller inveſtigation of this and other parts of the ſubject, we refer to the doctrines of Anatomy, Phyſiology, and Chemiſtry; with which it is more immediately connected than with the Elements of Pharmacy.

Animal oils and fats, like the groſs oils of vegetables, are not of themſelves ſoluble either in water or vinous ſpirits: but they may be united with water by the intervention of gum or mucilage. Moſt of them

may

may be changed into ſoap, by fixed alkaline ſalts; and be thus rendered miſcible with ſpirit, as well as water.

The odorous matter of ſome odoriferous animal-ſubſtances, as muſk, civet, caſtor, is, like eſſential oil, ſoluble in ſpirit of wine, and volatile in the heat of boiling water. Carthuſer relates, that from caſtor an actual eſſential oil has been obtained in a very ſmall quantity, but of an exceedingly ſtrong diffuſive ſmell.

The veſicating matter of cantharides, and thoſe parts of ſundry animal ſubſtances in which their peculiar taſte reſides, are diſſolved by rectified ſpirit, and ſeem to have ſome analogy with reſins and gummy reſins.

The gelatinous principle of animals, like the gum of vegetables, diſſolves in water, but not in ſpirit or in oils: like gums alſo, it renders oils and fats miſcible with water into a milky liqnor.

Some inſects, particularly the ant, are found to contain an acid juice, which approaches nearly to the nature of vegetable acids.

There are, however, ſundry animal juices which differ greatly, even in theſe general kinds of properties, from the correſponding ones of vegetables. Thus animal ſerum, which appears analogous to vegetable gummy juices, has this remarkable difference, that though it mingles uniformly with cold or warm water, yet on conſiderably heating the mixture, the animal-matter ſeparates from the watery fluid, and concretes into a ſolid maſs. Some phyſicians have been apprehenſive, that the heat of the body, in certain diſeaſes, might riſe to ſuch a degree, as to produce this dangerous or mortal concretion of the ſerous humours: but the heat requiſite for this effect is greater than the human body appears capable of ſuſtaining, being nearly about the middle point between the greateſt human heat commonly obſerved and that of boiling water.

The ſoft and fluid parts of animals are ſtrongly diſpoſed to run into putrefaction; they putrify much ſooner than vegetable matters; and when corrupted, prove more offenſive.

This proceſs takes place, in ſome degree, in the bodies of living animals, as often as the juices ſtagnate long, or are prevented, by an obſtruction of the natural emunctories, from throwing off their more volatile and corruptible parts.

During putrefaction, a quantity of air is generated; all the humours become gradually thinner, and the fibrous parts more lax and tender. Hence the tympany, which ſucceeds the corruption of any of the viſcera, or the imprudent ſuppreſſion of dyſenteries by aſtringents; and the weakneſs and laxity of the veſſels obſervable in ſcurvies, &c.

The craſſamentum of human blood changes, by putrefaction, into a dark livid coloured liquor; a few drops of which tinge the ſerum with a tawny hue, like the ichor of ſores and dyſenteric fluxes, as alſo the white of the eye, the ſaliva, the ſerum of blood drawn from a vein, and the liquor oozes from a bliſter in deep ſcurvies and the advanced ſtate of malignant fevers.

The putrid craſſamentum changes a large quantity of recent urine to a flame-coloured water, ſo common in fevers and in the ſcurvy. This mixture, after ſtanding an hour or two, gathers a cloud reſembling what is ſeen in the crude water of acute diſtempers, with ſome oily matter on the ſurface like the ſcum which floats on ſcorbutic urine.

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The ſerum of the blood depoſites, in putrefaction, a ſediment reſembling well-digeſted pus, and changes to a faint olive-green. A ſerum ſo far putrefied as to become green, is perhaps never to be ſeen in the veſſels of living animals; but in dead bodies this ſerum is to be diſtinguiſhed by the green colour which the fleſh acquires in corrupting. In ſalted meats, this is commonly aſcribed to the brine, but erroneouſly; for that has no power of giving this colour, but only of qualifying the taſte, and in ſome degree, the ill effects of corrupted aliments. In foul ulcers and other ſores, where the ſerum is left to ſtagnate long, the matter is likewiſe found of this colour, and is then always acrimonious.

The putrefaction of animal ſubſtances is prevented or retarded by moſt ſaline matters, even by the fixed and volatile alkaline ſalts, which have generally been ſuppoſed to produce a contrary effect. Of all the ſalts that have been made trial of, ſea-ſalt ſeems to reſiſt putrefaction the leaſt: in ſmall quantities, it even accelerates the proceſs. The vegetable bitters, as chamomile flowers, are much ſtronger antiſeptics, not only preſerving fleſh long uncorrupted, but likewiſe ſomewhat correcting it when putrid: the mineral acids have this laſt effect in a more remarkable degree. Vinous ſpirits, aromatic and warm ſubſtances, and the acrid plants, falſely called *alkaleſcent*, as ſcurvy-graſs and horſe-radiſh, are found alſo to reſiſt putrefaction. Sugar and camphor are found to be powerfully antiſeptic. Fixed air, or the aerial acid, is likewiſe thought to reſiſt putrefaction; but above all the vapours of nitrous acid, in the form of air (the nitrous air of Dr Prieſtley), is found to be the moſt effectual in preſerving animal bodies from corruption. The liſt of the ſeptics, or of thoſe ſubſtances that promote putrefaction, is very ſhort; and ſuch a property has only been diſcovered in calcareous earths and magneſia, and a very few ſalts, whoſe baſes are of theſe earths.

It is obſervable, that notwithſtanding the ſtrong tendency of animal matters to putrefaction, yet broths made from them, with the admixture of vegetables, inſtead of putrefying, turn ſour. Sir John Pringle has found, that when animal fleſh in ſubſtance is beaten up with bread or other farinaceous vegetables, and a proper quantity of water, into the conſiſtence of a pap, this mixture likewiſe, kept in a heat equal to that of the human body, grows in a little time ſour; while the vegetable matters, without the fleſh, ſuffer no ſuch change.

It was obſerved in the preceding ſection, that ſome few vegetables, in the reſolution of them by fire, diſcover ſome agreement in the matter with bodies of the animal-kingdom; yielding a volatile alkaline ſalt in conſiderable quantity, with little or nothing of the acid or fixed alkali, which the generality of vegetables afford. In animal ſubſtances alſo, there are ſome exceptions to the general analyſis: from animal fats, as we before obſerved, inſtead of a volatile alkali, an acid liquor is obtained; and their empyreumatic oil wants the peculiar offenſiveneſs of the other animal-oils.

SECT. III.

MINERALS.

I. OILS *and* BITUMENS.

IN the mineral kingdom is found a fluid oil called *naphtha* or *petroleum*, floating on the furface of waters, or iſſuing from clefts of rocks, particularly in the eaſtern countries, of a ſtrong ſmell very different from that of vegetable or animal oils, limpid almoſt as water, highly inflammable, not ſoluble in ſpirit of wine, and more averſe to union with water than any other oils.

There are different ſorts of theſe mineral oils, more or leſs tinged, of a more or leſs agreeable, and a ſtronger or weaker ſmell. By the admixture of concentrated acids, which raiſe no great heat or conflict with them, they become thick, and at length conſiſtent; and in theſe ſtates are called *bitumens*.

Theſe thickened or concreted oils, like the correſponding products of the vegetable kingdom, are generally ſoluble in ſpirit of wine, but much more difficultly, more ſparingly, and for the moſt part only partially; they liquefy by heat, but require the heat to be conſiderably ſtronger than vegetable products. Their ſmells are various; but all of them, either in the natural ſtate, when melted or ſet on fire, yield a peculiar kind of ſtrong ſcent, called fro[illegible]em *bituminous*.

The ſolid bitumens are, amber, jet, aſphaltum, or bitumen of Judea, and foſſil or pit-coal. All theſe bitumens, when diſtilled, give out an odorous phlegm, or water, more or leſs coloured and ſaline; an acid, frequently in a concrete ſtate; an oil, at firſt reſembling the native petrolea, but ſoon becoming heavier and thicker; and, laſtly, a quantity of volatile alkali is obtained: the reſiduum is a charry matter, differing in its appearances according to the nature of the bitumen which had been analyſed.

From the obſervations of ſeveral naturaliſts, it is probable that all bitumens are of vegetable and animal origin; that the circumſtances by which they differ from the reſinous and other oily matters of vegetables and animals, are the natural effects of time, or of an alteration produced on them by mineral acids; or perhaps they are the effect of both theſe cauſes combined. This opinion is the more probable, ſince bitumens, on a chemical analyſis, yield oil and volatile alkali; neither of which are found in any other minerals.

II. EARTHS.

THE little impropriety of joining the vegetable and animal earths to the mineral, muſt be overlooked for the ſake of bringing both under one ſynoptical view. Under the mineral earths are included ſtones; theſe being no other than earths in an indurated ſtate.—The different kinds of theſe bodies hitherto taken notice of, are the following.

I. Earths ſoluble in the nitrous, marine, and vegetable acids, but not at all or exceeding ſparingly in the vitriolic acid. When previouſly diſſolved in other acids, they are precipitated by the addition of this laſt, which thus unites with

with them into inſipid, or nearly inſipid concretes, not diſſoluble in any liquor.

Of this kind are,

1. The mineral calcareous earth: *diſtinguiſhed by its being convertible in a ſtrong fire, without addition, into an acrimonious calx called quicklime.* This earth occurs in a variety of forms in the mineral kingdom. The fine ſoft chalk, the coarſer lime-ſtones, the hard marbles, the tranſparent ſpars, the earthy matter contained in waters, and which ſeparating from them, incruſtates the ſides of the caverns, or hangs in iſicles from the top, receiving from its different appearances different appellations. How ſtrongly ſoever ſome of theſe bodies have been recommended for particular medicinal purpoſes, they are fundamentally no other than different forms of this calcareous earth; ſimple pulverization depriving them of the ſuperficial characters by which they were diſtinguiſhed in the maſs. Moſt of them generally contain a greater or leſs admixture of ſome of the indiſſoluble kinds of earth; which, however, affects their medicinal qualities no otherwiſe than by the addition which it makes to their bulk. Chalk appears to be one of the pureſt; and is therefore in general preferred. They all burn into a ſtrong quicklime: in this ſtate a part of them diſſolves in water, which thus becomes impregnated with the aſtringent and lithontriptic powers that have been erroneouſly aſcribed to ſome of the earths in their natural ſtate.

During the calcination of calcareous earths, a large quantity of elaſtic vapour is diſcharged: the abſence of this fluid is the cauſe of the cauſticity of quicklime, and of its ſolubility in water in the form of lime-water. For a more full enquiry into this ſubject, ſee the articles FIXED AIR, LIME-WATER, and CAUSTIC LEY.

2. The animal calcareous earth: *burning into quicklime like the mineral.* Of this kind are oyſter-ſhells, and all the marine ſhells that have been examined; though with ſome variation in the ſtrength of the quicklime produced from them.

3. The earth of bones and horns: *not at all burning into quicklime.* This kind of earth is more difficult of ſolution in acids than either of the preceding. It is accompanied in the ſubjects with a quantity of gelatinous matter, which may be ſeparated by long boiling in water, and more perfectly by burning in the open air. The earth may be extracted alſo from the bone or horn, though difficultly, by means of acids; whereas vegetables and the ſoft parts of animals yield their pure earth by burning only.

II. *Earths ſoluble with eaſe in the vitriolic as well as other acids, and yielding, in all other combinations therewith, ſaline concretes ſoluble in water.*

1. Magneſia alba: *compoſing with the vitriolic acid a bitter purgative ſalt.* This earth has not yet been found naturally in a pure ſtate. It is obtained from the purging mineral waters and their ſalts; from the bitter liquor which remains after the cryſtalliſation of ſea-ſalt from ſea-water; and from the fluid which remains uncryſtalliſed in the putrefaction of ſome ſorts of rough nitre. The aſhes of vegetables appear to be nearly the ſame kind of earth.

2. Aluminous earth: *compoſing with the vitriolic acid a very aſtringent ſalt.* This earth alſo has not been found naturally pure. It is obtained

from alum; which is no other than a combination of it with the vitriolic acid; it may likewiſe be extracted, by ſtrong boiling in that acid, from clays and boles.

III. *Earths which by digeſting in acids, either in the cold or in a moderate warmth, are not at all diſſolved.*

1. Argillaceous earth: *becoming hard, or acquiring an additional hardneſs, in the fire.* Of this kind of earth there are ſeveral varieties, differing in ſome particular properties: as the purer *clays*, which when moiſtened with water form a very viſcous maſs, difficultly diffuſible through a larger quantity of the fluid, and ſlowly ſubſiding from it; *boles*, leſs viſcous, more readily miſcible with water, and more readily ſubſiding; and *ochres*, which have little or nothing of the viſcoſity of the two foregoing, and are commonly impregnated with a yellow or red ferrugineous calx.

2. Cryſtalline earth: *naturally hard, ſo as to ſtrike ſparks with ſteel; becoming friable in a ſtrong fire.* Of this kind are flints, cryſtals, &c. which appear to conſiſt of one and the ſame earth, differing in the purity, hardneſs, and tranſparency of the maſs.

3. Gypſeous earth: *reducible by a gentle heat into a ſoft powder, which unites with water into a maſs, ſomewhat viſcous and tenacious while moiſt, but quickly drying and becoming hard. A greater heat deprives the powder of this property, without occaſioning any other alteration.* Such are the tranſparent *ſelenites*; the fibrous ſtony maſſes improperly called *Engliſh talc*; and the granulated *gypſa*, or *plaſter of Paris* ſtones. Though theſe bodies, however, have been commonly thought to be mere earths, of a diſtinct kind from the reſt, they appear, both from analytical and ſynthetical experiments, to be no other than combinations of the mineral calcareous earth with vitriolic acid.

4. Talky earth: *ſcarcely alterable by a vehement fire* The maſſes of this earth are generally of a fibrous or leafy texture; more or leſs pellucid, bright or glittering, ſmooth and unctuous to the touch; too flexible and elaſtic to be eaſily pulveriſed; ſoft, ſo as to be cut with a knife. In theſe reſpects ſome of the gypſeous earths nearly reſemble them, but the difference is readily diſcovered by fire; a weak heat reducing the gypſeous to powder, while the ſtrongeſt makes no other alteration in the talky, than ſomewhat diminiſhing their flexibility, brightneſs, and unctuoſity.

III. Metals.

Of metals, the next diviſion of mineral bodies, the moſt obvious characters are, their peculiar bright aſpect, perfect opacity, and great weight; the lighteſt of them is ſix, and the heavieſt upwards of nineteen, times heavier than an equal bulk of water.

To underſtand the writers in chemiſtry, it is proper to be informed, that metals are ſubdivided into the *perfect*, the *imperfect*, and the *ſemimetals*

Thoſe poſſeſſed of ductility and malleability, and which are not ſenſibly altered by very violent degrees of heat, are called *perfect metals*: Of theſe there are three; gold, ſilver, and platina. It is, however, probable, that the mark of their indeſtructibility by fire is only relative: and indeed modern chemiſts have been able, by a very intenſe degree of heat,

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to bring gold into the ſtate of a *calx*, or ſomething very nearly reſembling it.

Thoſe metallic ſubſtances which poſſeſs the diſtinctive properties of the perfect metals, but in a leſs degree, are called the *imperfect metals:* Theſe are, copper, iron, tin, lead.

Laſtly, thoſe bodies having the metallic characters in the moſt imperfect ſtate, that is to ſay, thoſe which have no ductility and the leaſt fixity in the fire, are diſtinguiſhed by the name of *ſemi-metals:* Theſe are, regulus of antimony, biſmuth, zinc, regulus of cobalt, nickel, and regulus of arſenic; which laſt might be rather conſidered as the boundary between the metallic and the ſaline bodies.

Mercury has been generally ranked in a claſs by itſelf.

All metallic bodies, when heated in cloſe veſſels, melt or *fuſe*. This *fuſion* takes place at different degrees of heat in different metals; and it does not appear that this proceſs produces any change in the metals, provided it be conducted in cloſe veſſels. Metals, expoſed to the combined action of air and fire, are converted into an earth-like ſubſtance called *calx:* by this proceſs, which we call *calcination*, the metal ſuffers remarkable changes. From the diſtinctive marks we have before given of the metallic bodies, it will be obvious, that the perfect metals are moſt ſlowly, the imperfect more quickly, and the ſemi metals moſt eaſily and ſooneſt, affected in this operation. This earth like powder, or *calx*, is found to poſſeſs no metallic aſpect, but is conſiderably heavier than the metal before its calcination: it has no longer any affinity with metallic bodies, nor even with the metal from which it has been produced.

Beſides this method of calcining metals by air and fire, they may likewiſe be brought into the ſtate of a calx, by diſſolving them in acids, from which they may be afterwards freed by evaporating the acid, or by adding to the ſolution an alkaline ſalt. Metals are alſo ſometimes dephlogiſticated by detonation with nitre. This change in their obvious properties is generally accompanied with a remarkable alteration in their medicinal virtues: thus quickſilver, which taken into the body in its crude ſtate and undivided, ſeems inactive; proves, when calcined by fire, even in ſmall doſes a ſtrong emetic and cathartic, and in ſmaller ones, a powerful alterative in chronical diſorders; while regulus of antimony, on the contrary, is changed by the ſame treatment, from a high degree of virulence to a ſtate of inactivity.

Calces of mercury and arſenic exhale in a heat below ignition: thoſe of lead and biſmuth, in a red or low white heat, run into a tranſparent glaſs; the others are not at all vitreſcible, or not without extreme vehemence of fire. Both the calces and glaſſes recover their metallic form and qualities again by the ſkilful addition of any kind of inflammable ſubſtance that does not contain a mineral acid. This recovery of the metallic calces into the metallic form is called *reduction*. During this proceſs an elaſtic aerial fluid eſcapes, which is found to be *pure air*.

Is the converſion of metals into calces owing to the diſcharge of phlogiſton, or to the abſorption of pure air? And is the reduction to be aſcribed to the abſorption of phlogiſton, or to the eſcape of pure air? And again, Is the calcination to be explained by the diſcharge of phlogiſton and conſequent precipitation of pure air? And is the reduction effected

by

by the abſorption of phlogiſton, either furniſhed by inflammable bodies or precipitated in conſequence of the diſcharge of pure air? On theſe queſtions there is much diſpute among modern chemiſts: We thought it only neceſſary to ſtate them here, as a full enquiry into the ſubject is by no means the province of pharmacy. We, however, think it prudent to retain the doctrine of Stahl: and we do this the more readily, that it has been followed in the former editions of this work; and that it is abundantly clear in its illuſtration of the pharmaceutical proceſſes. We ſhall not, however, reject any modern diſcovery which may ſerve to illuſtrate our ſubjects.

All metallic bodies diſſolve in acids; ſome only in particular acids, as ſilver and lead in the nitrous: ſome only in compoſitions of acids, as gold in a mixture of the nitrous and marine: and others, as iron and zinc, in all acids. Some likewiſe diſſolve in alkaline liquors, as copper; and others, as lead, in expreſſed oils. Fuſed with a compoſition of ſulphur and fixed alkaline ſalt, they are all, except zinc, made ſoluble in water.

All metallic ſubſtances, diſſolved in ſaline liquors, have powerful effects in the human body, though many of them appear in their pure ſtate to be inactive. Their activity is generally in proportion to the quantity of acid combined with them: Thus lead, which in its crude form has no ſenſible effect, when united with a ſmall portion of vegetable acid into cerufs, diſcovers a low degree of the ſtyptic and malignant quality, which it ſo ſtrongly exerts when blended with a larger quantity of the ſame acid into what was called *ſaccharum ſaturni*, but now more properly *ſal plumbi*, or *plumbum acetatum:* and thus mercury, with a certain quantity of the marine acid, forms the violent corroſive ſublimate, which by diminiſhing the proportion of acid becomes the mild medicine called *mercurius dulcis*.

IV. Acids.

The ſalts of this order are very numerous; but as we are at preſent treating of *Minerals*, it is only therefore the *mineral* or *foſſil* acids we mean to ſpeak of in this place.

Theſe are diſtinguiſhed by the names of the concretes from which they have been principally extracted; the *vitriolic* from vitriol, the *nitrous* from nitre or ſaltpetre; and the *marine* or *muriatic* from common ſea-ſalt. The form they are generally in, is that of a watery fluid: They have all a remarkable attraction for water: They imbibe the humidity of the air with rapidity and the generation of heat. Although heat be produced by their union with water, yet when mixed with ice in a certain manner, they generate a prodigious degree of cold. Acids change the purple and blue colours of vegetables to a red: they reſiſt fermentation; and laſtly, they impreſs that peculiar ſenſation on the tongue called *ſourneſs*, and which their name imports. But it is to be obſerved, that they are all highly corroſive, inſomuch as not to be ſafely touched, unleſs largely diluted with water, or united with ſuch ſubſtances as obtund or ſuppreſs their acidity. Mixed haſtily with vinous ſpirits, they raiſe a violent ebullition and heat, accompanied with a copious diſcharge of noxious fumes: a part of the acid unites intimately with the vinous ſpirit into a new compound, void of acidity, called *dulciſied ſpirit*. It is obſervable, that the marine acid is much leſs diſpoſed to this union with ſpirit of wine than

than either of the other two; nevertheleſs, many of the compound ſalts reſulting from the combination of earthy and metallic bodies with this acid, are ſoluble in that ſpirit, while thoſe with the other acids are not. All theſe acids effervesce ſtrongly with alkaline ſalts both fixed and volatile, and form with them neutral ſalts; that is, ſuch as diſcover no marks either of an acid or alkaline quality.

The nitrous and marine acids are obtained in the form of a thin liquor; the acid part being blended with a large proportion of water, without which it would be diffuſed into an incoercible vapour: the vitriolic ſtands in need of ſo much leſs water for its condenſation as to aſſume commonly an oily conſiſtence (whence it is called *oil of vitriol*), and in ſome circumſtances even a ſolid one. Alkaline ſalts, and the ſoluble earths and metals, abſorb from the acid liquors only the pure acid part: ſo that the water may now be evaporated by heat, and the compound ſalt left in a dry form.

From the coalition of the different acids with the three different alkalies, and with the ſeveral ſoluble earths and metallic bodies, reſult a variety of ſaline compounds; the principal of which ſhall be particulariſed in the ſequel of this work.

The vitriolic acid, in its concentrated liquid ſtate, is much more ponderous than the other two; it emits no viſible vapour in the heat of the atmoſphere, but imbibes moiſture which increaſes its weight: the nitrous and marine emit copious corroſive fumes, the nitrous yellowiſh red, and the marine white ones. If bottles containing the three acids be ſtopt with cork, the cork is found in a little time tinged black with the vitriolic, corroded into a yellow ſubſtance by the nitrous, and into a whitiſh one by the marine.

It is above laid down as a character of one of the claſſes of earths, that the vitriolic acid precipitates them when they are previouſly diſſolved in any other acid: it is obvious, that on the ſame principle this particular acid may be diſtinguiſhed from all others. This character ſerves not only for the acid in its pure ſtate, but likewiſe for all its combinations that are ſoluble in water. If a ſolution of any compound ſalt, whoſe acid is the vitriolic, be added to a ſolution of chalk in any other acid, the vitriolic acid will part from the ſubſtance with which it was before combined, and join itſelf to the chalk, forming therewith a compound; which, being no longer ſoluble in the liquor, renders the whole milky for a time, and then gradually ſubſides.

This acid may be diſtinguiſhed alſo, in compound ſalts, by another criterion not leſs ſtrongly marked: If any ſalt containing it be mixed with powdered charcoal, and the mixture expoſed in a cloſe veſſel to a moderately ſtrong fire, the acid will unite with the directly inflammable part of the charcoal, and compoſe therewith a genuine ſulphur. Common brimſtone is no other than a combination of the vitriolic acid with a ſmall proportion of inflammable matter. With any kind of inflammable matter which is not volatile in cloſe veſſels, as the coal of vegetables, of animals, or of bitumens, this acid compoſes always the ſame identical ſulphur.

The nitrous acid alſo, with whatever kind of body it be combined, is both diſtinguiſhed and extricated by means of any inflammable ſubſtance being brought to a ſtate of ignition with it. If the ſubject be mixed with

with a little powdered charcoal and made red-hot, a deflagration or fulmination enſues; that is, a bright flame with a hiſſing noiſe; and the inflammable matter and the acid being thus conſumed or diſſipated together, there remains only the ſubſtance which was before combined with the acid, and the ſmall quantity of aſhes afforded by the coal.

Theſe properties of the nitrous acid deflagrating with inflammable ſubſtances, and of the vitriolic forming ſulphur with them, ſerve not only as criteria of the reſpective acids in the various forms and diſguiſes, but likewiſe for diſcovering inflammable matter in bodies, when its quantity is too ſmall to be ſenſible on other trials.

All theſe acids will be more particularly examined when we come to treat of each of them apart. There are, however, a few other mineral acids which are of importance to be known; theſe are *aqua regia; acid of borax; ſparry acid;* and, laſtly, *fixed air*, which has of late been called *aërial acid*, or *acid of chalk*.

Aqua regia has been generally prepared by a mixture of certain proportions of the nitrous and muriatic acids. It is of little avail in pharmacy whether we conſider it as a diſtinct acid, or only as a modification of the muriatic. It has been found, that the muriatic acid when diſtilled with *manganeſe* (a peculiar foſſile ſubſtance, ſhewing a remarkable attraction to phlogiſton), ſuffers a change which renders it capable of diſſolving gold and platina. Whether this change be produced by the acid acquiring a redundance of pure air, or by its being deprived of phlogiſton, is not our buſineſs to decide. This experiment, however, renders it probable, that the nitrous acid in the common aqua regia, is only ſubſervient to accompliſhing the ſame change in the muriatic acid, which is produced by diſtilling that acid with manganeſe.

As aqua regia has been only uſed in the nicer operations in chemiſtry, and in the art of aſſaying, we think it unneceſſary to ſay more of it in this place.

The *acid of borax*, or *ſedative ſalt of Homberg*, may be extracted from borax, a neutral ſalt, whoſe baſe is mineral alkali. It has alſo been found native in the waters of ſeveral lakes in Tuſcany. It is a light, cryſtaliſed concrete ſalt; its taſte is ſenſibly acid; it is difficultly ſoluble in water; but the ſolution changes blue vegetable colours to a red. With vitreſcent earths, it fuſes into a white glaſs: it unites with the other alkalies, with magneſia, and with quicklime. The ſalts reſulting from theſe combinations are very imperfectly known. The ſalt has been called *ſedative*, from its ſuppoſed virtues as an anodyne and refrigerant remedy; but modern phyſicians have very little faith in this once celebrated drug.

The *ſparry acid* is ſo called, from its being extracted from a foſſil called *ſparry fluor*, or *vitreous ſpar*. It is not yet determined whether it be a diſtinct acid; and as it has not yet been employed for any purpoſe in pharmacy, we think it would be improper to attempt any farther account of it here.

Beſides the acids above mentioned, there have alſo been diſcovered acids ſeemingly of a particular nature, in amber, in arſenic, and in black-lead: but as theſe have not hitherto been applied to any uſe in pharmacy, they cannot properly have a place in this work.

We

We now come to the laſt, but perhaps the moſt generally diffuſed, acid in nature: this is the aerial acid, or

Fixed Air.

In our pharmaceutical hiſtory of this body, we ſhall only make uſe of the two names, *fixed air* and *aerial acid*, being thoſe moſt generally uſed, and which in our opinion are moſt applicable to our own ſubject. Fixed air is a permanently elaſtic fluid, being only *fixed* when in a ſtate of combination with calcareous earth or other ſubſtances from which it may be extricated. It has received many different names, according to the ſubſtances from which it is diſengaged, and to the different opinions concerning its nature; it is the *gas ſilveſtre* of Helmot, the *fixed air* of Dr Black, the *acid of chalk*, *calcareous gas*, *mephitic gas*, *mephitic acid*, and *aerial acid*, of many modern chemiſts. In accommodating our account of it to the purpoſes of pharmacy, it is moſt convenient to conſider it as an acid. The aerial acid may be extricated by heat, or by other acids, from all calcareous earths; that is, from all thoſe earths which by calcination are converted into quicklime; ſuch as chalk, marble, limeſtone, ſea-ſhells, &c. It is likewiſe extricated from mild, fixed, and volatile alkalies, and from magneſia alba. Thus, if the vitriolic, or almoſt any other acid, be added to a quantity of calcareous earth or mild alkali, a briſk effervescence immediately enſues; the fixed air, or aerial acid, is diſcharged in bubbles; and the other acid takes its place. If this proceſs be conducted with an apparatus to be afterwards deſcribed, the aerial acid, now ſeparated from the calcareous earth, may be received and preſerved in cloſe veſſels. When thus diſengaged, it aſſumes its real character, viz. that of a *permanently elaſtic fluid*. Fixed air is alſo ſeparated in great quantity during the vinous fermentation of vegetable matters. When a calcareous earth is deprived of this acid by heat, it is converted into the cauſtic ſubſtance, *quicklime*. When alkalies, fixed or volatile, are deprived by any means of their aerial acid, they are rendered much more cauſtic, incapable of cryſtallifation, or of effervesing with other acids. They arealſo in this *deaerated* ſtate much more powerful in diſſolving other bodies. By recombining this acid with quicklime, calcined magneſia, or alkali, any of which had been deprived of it, theſe ſubſtances again aſſume their former weight and properties. Theſe bodies, then, when combined with aerial acid, are called *mild*; as *mild calcareous earth*, *mild alkali*, &c.: and when deprived of this acid, they are called *cauſtic*; as *cauſtic calcareous earths*, *cauſtic alkali*, &c.: but as magneſia is not rendered cauſtic by calcination, there would perhaps be leſs danger in calling them *aerated* and *deaerated*. The aerial acid is more diſpoſed to unite with cauſtic calcareous earth (quicklime) than with any other ſubſtance; next to that, its attraction is for fixed alkali, then for magneſia, and laſtly for volatile alkali. We ſhall afterwards find that theſe relative powers of the different ſubſtances to unite with this acid, lay the foundation of many important proceſſes in pharmacy.

When we pour a ſmall quantity of the aerial acid into lime-water, the liquor inſtantly aſſumes a white colour, and the lime gradually precipitates, leaving the water clear and taſteleſs: the lime in this experiment has abſorbed the acid, and has therefore become *mild* or *aerated* earth. The aerial acid is capable of being abſorbed by water; and the water

thus impregnated, precipitates lime in lime-water: but if a certain larger quantity of this impregnated water be added, the lime is redissolved, and the liquor recovers its transparency. Water impregnated with aerial acid is capable of dissolving iron; and in this way are formed native and artificial chalybeate waters. Zinc is also soluble in the same liquor. This acid is easily expelled from the water by removing the pressure of the atmosphere, by boiling, and even by time alone, if the vessel be not kept close shut. Fixed air extinguishes flame, vegetable and animal life, and ought therefore to be cautiously managed: like other acids, it changes the blue colours of vegetables to a red, and communicates an acidulous taste to the water impregnated with it. The attraction of the aerial acid, even to quicklime, is but feeble; as we know of no other acids whatever that are not able to disengage it.

From these several facts, it will appear obvious, that *mild* or *effervescing alkalies*, whether fixed or volatile, are really neutral salts, compounded of the aerial acid and pure alkali: like other acids, it unites with these bodies, diminishes their causticity, and effects their crystallisation. In speaking, therefore, of *pure alkali*, we ought to confine ourselves to those in the *caustic* or *deaerated* state; or, in other words, to those which are deprived of their fixed air or aerial acid, with which they formed a compound salt. Many other properties of this acid might be mentioned, but we have now noticed all those which we thought were concerned in the business of pharmacy. We shall have occasion to recur to the subject when we come to the preparation of several compound drugs.

Let us next take a view of what passes in the combinations of acids with different substances.

If a fixed alkaline salt be united with a vegetable acid, as vinegar, and formed into a neutral salt, on adding to this compound some marine acid, the acetous acid will be disengaged, so as to exhale totally in a moderate heat, leaving the marine in possession of the alkali: the addition of the nitrous will in like manner dispossess the marine, which now arises in its proper white fumes, though without such an addition it could not be extricated from the alkali by any degree of heat: on the addition of the vitriolic acid, the nitrous gives way in its turn, exhaling in red fumes, and leaving only the vitriolic acid and the alkali united together.

Again, if any metallic body be dissolved in an acid, the addition of any earthy body that is disoluble in that acid will precipitate the metal: a volatile alkaline salt will in like manner precipitate the earth: and a fixed alkali will dislodge the volatile; which last being readily exhaled by heat, the remaining salt will be the same as if the acid and fixed alkali had been joined together at first, without the intervention of any of the other bodies.

The power in bodies on which these various transpositions and combinations depend, is called by the chemists *affinity* or *elective attraction*; a term, like the Newtonian *attraction*, designed to express not the cause, but the effect. When an acid spontaneously quits a metal to unite with an alkali, they say *it has a greater affinity* or *attraction* to the alkali than to the metal: and when, on the contrary, they say it has a greater affinity to fixed alkali than to the volatile, they mean only that it will unite with the fixed

fixed in preference to the volatile; and that if previouſly united with a volatile alkali, it will forſake this for a fixed one.

The doctrine of the affinities of bodies is of a very extenſive uſe in chemical pharmacy: many of the officinal proceſſes, as we ſhall ſee hereafter, are founded on it: ſeveral of the preparations turn out very different from what would be expected by a perſon unacquainted with theſe properties of bodies; and ſeveral of them, if, from an error in the proceſs, or other cauſes, they prove unfit for the uſe intended, may be rendered applicable to other purpoſes, by ſuch tranſpoſitions of their component parts as are pointed out by the knowledge of their affinities.

We ſhall therefore ſubjoin a table of the principal affinities obſerved in pharmaceutical operations, formed from that of the famous Bergman.

The table is to be thus underſtood. The ſubſtance printed in capitals, on the top of each ſeries, has the greateſt affinity with that immediately under it, a leſs affinity with the next, and ſo on to the end of the ſeries: that is, if any of the remote bodies has been combined with the top one, the addition of any of the intermediate bodies will diſunite them; the intermediate body uniting with the uppermoſt body of the ſeries, and throwing out the remote one. Thus, in the firſt ſeries of the affinities of the vitriolic acid, a fixed alkali being placed between the acid and iron, it is to be concluded, that wherever vitriolic acid and iron are mixed together, the addition of any fixed alkaline ſalt will unite with the acid, and occaſion the iron to be ſeparated. Where ſeveral ſubſtances are expreſſed in one ſeries, it is to be underſtood, that any of thoſe bodies which are nearer to the uppermoſt, will in like manner diſengage from it any of thoſe which are more remote.

TABLE OF SINGLE ATTRACTIONS.

BY WATER.

VITRIOLIC ACID.	NITROUS ACID.	MARINE ACID.	AQUA REGIA.
Terra ponderosa,	Vegetable alkali,	Vegetable alkali,	Vegetable alkali,
Vegetable alkali,	Fossil alkali,	Fossil alkali,	Fossil alkali,
Fossil alkali,	Terra ponderosa,	Terra ponderosa,	Terra ponderosa,
Lime,	Lime,	Lime,	Lime,
Magnesia,	Magnesia,	Magnesia,	Magnesia,
Volatile alkali,	Volatile alkali,	Volatile alkali,	Volatile alkali,
Clay,	Clay,	Clay,	Clay,
Zinc,	Zinc,	Zinc,	Zinc,
Iron,	Iron,	Iron,	Iron,
Lead,	Lead,	Lead,	Lead,
Tin,	Tin,	Tin,	Tin,
Copper,	Copper,	Copper,	Copper,
Antimony,	Antimony,	Antimony,	Antimony,
Arsenic,	Arsenic,	Arsenic,	Arsenic,
Mercury,	Mercury,	Mercury,	Mercury,
Silver,	Silver,	Silver,	Silver,
Gold,	Gold,	Gold,	Gold,
Water,	Water,	Water,	Water,
Alkohol.	Alkohol.	Alkohol.	Alkohol.

BY FIRE.

Vegetable alkali,	Terra ponderosa,	Terra ponderosa,	Terra ponderosa,
Fossil alkali,	Vegetable alkali,	Vegetable alkali,	Vegetable alkali,
Terra ponderosa,	Fossil alkali,	Fossil alkali,	Fossil alkali,
Lime,	Lime,	Lime,	Lime,
Magnesia,	Magnesia,	Magnesia,	Magnesia,
Metals,	Metals,	Metals,	Metals,
Volatile alkali,	Volatile alkali,	Volatile alkali,	Volatile alkali.
Clay.	Clay.	Clay.	Clay.

TABLE *of* SINGLE ATTRACTIONS *continued.*

By WATER.

ACID OF BORAX.	ACID OF SUGAR.	ACID OF TARTAR.	ACID OF SORREL.
Lime,	Lime,	Lime,	Lime,
Terra ponderosa,	Terra ponderosa,	Terra ponderosa,	Terra ponderosa,
Magnesia,	Magnesia,	Magnesia,	Magnesia,
Vegetable alkali,	Vegetable alkali,	Vegetable alkali,	Vegetable alkali,
Fossil alkali,	Fossil alkali,	Fossil alkali,	Fossil alkali,
Volatile alkali,	Volatile alkali,	Volatile alkali,	Volatile alkali,
Clay,	Clay,	Clay,	Clay,
Zinc,	Zinc,	Zinc,	Zinc,
Iron,	Iron,	Iron,	Iron,
Lead,	Lead,	Lead,	Lead,
Tin,	Tin,	Tin,	Tin,
Copper,	Copper,	Copper,	Copper,
Antimony,	Antimony,	Antimony,	Antimony,
Arsenic,	Arsenic,	Arsenic,	Arsenic,
Mercury,	Mercury,	Mercury,	Mercury,
Silver,	Silver,	Silver,	Silver,
Gold,	Gold,	Gold,	Gold,
Water,	Water,	Water,	Water,
Alkohol.	Alkohol.	Alkohol.	Alkohol.

By FIRE.

Lime,			
Terra ponderosa,			
Magnesia,			
Vegetable alkali,			
Fossil alkali,			
Metals,			
Volatile alkali,			
Clay.			

TABLE

TABLE *of* SINGLE ATTRACTIONS *continued.*

By WATER.

ACID OF LEMON.	ACETOUS ACID.	ACID OF PHOSPHORUS.	AERIAL ACID.
Lime,	Terra ponderosa,	Lime,	Terra ponderosa,
Terra ponderosa,	Vegetable alkali,	Terra ponderosa,	Lime,
Magnesia,	Fossil alkali,	Magnesia,	Vegetable alkali,
Vegetable alkali,	Volatile alkali,	Vegetable alkali,	Fossil alkali,
Fossil alkali,	Lime,	Fossil alkali,	Magnesia,
Volatile alkali,	Magnesia,	Volatile alkali,	Volatile alkali,
Clay,	Clay,	Clay,	Clay,
Zinc,	Zinc,	Zinc,	Zinc,
Iron,	Iron,	Iron,	Iron,
Lead,	Lead,	Lead,	Lead,
Tin,	Tin,	Tin,	Tin,
Copper,	Copper,	Copper,	Copper,
Antimony,	Antimony,	Antimony,	Antimony,
Arsenic,	Arsenic,	Arsenic,	Arsenic,
Mercury,	Mercury,	Mercury,	Mercury,
Silver,	Silver,	Silver,	Silver,
Gold,	Gold,	Gold,	Gold,
Water,	Water,	Water.	Water.
Alkohol.	Alkohol.		

By FIRE.

	Terra ponderosa,	Lime,	
	Vegetable alkali,	Terra ponderosa,	
	Fossil alkali,	Magnesia,	
	Lime,	Vegetable alkali,	
	Magnesia,	Fossil alkali,	
	Metals,	Metals,	
	Volatile alkali,	Volatile alkali,	
	Clay.	Clay.	

TABLE

TABLE *of* SINGLE ATTRACTIONS *continued.*

By WATER.

VEGETABLE ALKALI.	FOSSIL ALKALI.	VOLATILE ALKALI.	TERRA PONDEROSA.
Vitriolic acid,	Vitriolic acid,	Vitriolic acid,	Vitriolic acid,
Nitrous acid,	Nitrous acid,	Nitrous acid,	Acid of ſugar,
Marine acid,	Marine acid,	Marine acid,	Acid of ſorrel,
Phoſphoric acid.	Phoſphoric acid,	Phoſphoric acid,	Phoſphoric acid,
Acid of ſugar,	Acid of ſugar,	Acid of ſugar,	Nitrous acid,
Acid of tartar,	Acid of tartar,	Acid of tartar,	Marine acid,
Acid of ſorrel,	Acid of ſorrel,	Acid of ſorrel,	Acid of lemon,
Acid of lemon,	Acid of lemon,	Acid of lemon,	Acid of tartar,
Acid of benzoin,	Acid of benzoin,	Acid of benzoin,	Acid of benzoin,
Acetous acid,	Acetous acid,	Acetous acid,	Acetous acid,
Acid of borax,	Acid of borax,	Acid of borax,	Acid of borax,
Aerial acid,	Aerial acid,	Aerial acid,	Aerial acid,
Water,	Water,	Water,	Water,
Unctuous oils,	Unctuous oils,	Unctuous oils,	Unctuous oils,
Sulphur,	Sulphur,	Sulphur,	Sulphur.
Metals.	Metals.	Metals.	

By FIRE.

Phoſphoric acid,	Phoſphoric acid,	Vitriolic acid,	Phoſphoric acid,
Acid of borax,	Acid of borax,	Nitrous acid,	Acid of borax,
Vitriolic acid,	Vitriolic acid,	Marine acid,	Vitirolic acid,
Nitrous acid,	Nitrous acid,	Acetous acid,	Nitrous acid,
Marine acid,	Marine acid,	Terra ponderoſa.	Marine acid,
Acetous acid,	Acetous acid,	Lime,	Acid of benzoin,
Terra ponderoſa,	Terra ponderoſa.	Magneſia,	Acetous acid,
Lime,	Lime,	Clay,	Fixed alkali,
Magneſia,	Magneſia,	Sulphur.	Sulphur,
Clay,	Clay,		Lead.
Sulphur.	Sulphur.		

TABLE

TABLE *of* SINGLE ATTRACTIONS *continued.*

BY WATER.

LIME.	MAGNESIA.	CLAY.	WATER.
Acid of ſugar,	Acid of ſugar,	Vitriolic acid,	Vegetable alkali,
Acid of ſorrel,	Phoſphoric acid,	Nitrous acid,	Foſſil alkali,
Vitriolic acid,	Vitriolic acid,	Marine acid,	Volatile alkali,
Acid of tartar,	Nitrous acid,	Acid of ſugar,	Alkohol,
Phoſphoric acid,	Marine acid,	Acid of ſorrel,	Æther,
Nitrous acid,	Acid of ſorrel,	Acid of tartar,	Vitriolic acid,
Marine acid,	Acid of tartar,	Acid of lemon,	Vitriolated tartar,
Acid of lemon,	Acid of lemon,	Acid of phoſphorus	Alum,
Acid of benzoin,	Acid of benzoin,	Acid of benzoin,	Green Vitriol,
Acetous acid,	Acetous acid,	Acetous acid,	Corroſive ſublimate,
Acid of borax,	Acid of borax,	Acid of borax,	
Aerial acid,	Aerial acid,	Aerial acid.	
Water,	Sulphur.		
Unctuous oil,			
Sulphur.			

BY FIRE.

Phoſphoric acid,	Phoſphoric acid,	Phoſphoric acid,	
Acid of borax,	Acid of borax,	Acid of borax,	
Vitriolic acid,	Vitriolic acid,	Vitriolic acid,	
Nitrous acid,	Nitrous acid,	Nitrous acid,	
Marine acid,	Marine acid,	Marine acid,	
Fixed alkali,	Fixed alkali,	Fixed alkali,	
Sulphur,	Sulphur,	Sulphur,	
Lead.	Lead.	Lead.	

TABLE

TABLE *of* SINGLE ATTRACTIONS *continued.*

BY WATER.

SULPHUR.	HEPAR SULPHURIS.	ALKOHOL.	ÆTHER.
Lead,	Gold,	Water,	Alkohol,
Tin,	Silver,	Æther,	Essential oils,
Silver,	Mercury,	Essential oils,	Expressed oils,
Mercury,	Arsenic,	Volatile alkali,	Water,
Arsenic,	Antimony,	Fixed alkali,	Sulphur.
Antimony,	Copper,	Hepar sulphuris,	
Iron,	Tin,	Sulphur.	
Vegetable alkali,	Lead,		
Volatile alkali,	Iron,		
Terra ponderosa,	Alkohol,		
Lime,	Water.		
Magnesia,			
Unctuous oils,			
Essential oils,			
Æther,			
Alkohol.			

BY FIRE.

Fixed alkali,	Iron,		
Iron,	Copper,		
Copper,	Tin,		
Tin,	Lead,		
Lead,	Silver,		
Silver,	Antimony,		
Antimony,	Mercury,		
Mercury,	Arsenic.		
Arsenic.			

TABLE *of* SINGLE ATTRACTIONS *continued.*

BY WATER.

ESSENTIAL OILS.	EXPRESSED OILS.	GOLD.	SILVER.
Æther, Alkohol, Expreſſed oils, Fixed alkali, Sulphur.	Æther, Eſſential oils, Fixed alkali, Volatile alkali, Sulphur.	Æther, Marine acid, Aqua regia, Nitrous acid, Vitriolic acid, Acid of tartar, Phoſphoric acid, Fixed alkali, Volatile alkali.	Marine acid, Acid of ſugar, Vitriolic acid, Phoſphoric acid, Nitrous acid, Acid of tartar, Acid of ſorrel, Acid of lemon, Acetous acid, Aerial acid, Volatile acid.

BY FIRE.

		Mercury, Copper, Silver, Lead, Tin, Antimony, Iron, Zinc, Arſenic, Hepar ſulphuris.	Lead, Copper, Mercury, Tin, Gold, Antimony, Iron, Zinc, Arſenic, Hepar ſulphuris, Sulphur.

TABLE

TABLE *of* SINGLE ATTRACTIONS *continued.*

BY WATER.

MERCURY.	LEAD.	IRON.	COPPER.
Marine acid,	Vitriolic acid,	Acid of ſugar,	Acid of ſugar,
Acid of ſugar,	Acid of ſugar,	Acid of tartar,	Acid of tartar,
Phoſphoric acid,	Acid of tartar,	Vitriolic acid,	Marine acid,
Vitriolic acid,	Phoſphoric acid,	Marine acid,	Vitriolic acid,
Acid of tartar,	Acid of ſorrel,	Nitrous acid,	Nitrous acid,
Acid of lemon,	Marine acid,	Phoſphoric acid,	Phoſphoric acid,
Nitrous acid,	Nitrous acid,	Acid of ſorrel,	Acid of ſorrel,
Acetous acid,	Acid of lemon,	Acid of lemon,	Acid of lemon,
Acid of borax,	Acetous acid,	Acetous acid,	Acetous acid,
Aerial acid.	Acid of borax,	Acid of borax,	Acid of borax,
	Aerial acid,	Aerial acid.	Aerial acid,
	Fixed alkali.		Fixed alkali,
			Volatile alkali,
			Expreſſed oils.

BY FIRE.

Gold,	Gold,	Arſenic,	Gold,
Silver,	Silver,	Copper,	Silver,
Lead,	Copper,	Gold,	Arſenic,
Tin,	Mercury,	Silver,	Iron,
Zinc,	Tin,	Tin,	Zinc,
Copper,	Antimony,	Antimony,	Antimony,
Antimony,	Arſenic,	Lead,	Tin,
Arſenic,	Zinc,	Mercury,	Lead,
Iron,	Iron,	Hepar ſulphuris,	Mercury,
Hepar ſulphuris,	Hepar ſulphuris,	Sulphur.	Hepar ſulphuris,
Sulphur.	Sulphur.		Sulphur.

TABLE *of* SINGLE ATTRACTIONS *continued.*

BY WATER.

TIN.	ARSENIC.	ZINC.	ANTIMONY.
Acid of tartar,	Marine acid,	Acid of ſugar,	Marine acid,
Marine acid,	Acid of ſugar,	Vitriolic acid,	Acid of ſugar,
Vitriolic acid,	Vitriolic acid,	Marine acid,	Vitriolic acid,
Acid of ſugar,	Nitrous acid,	Nitrous acid,	Nitrous acid,
Phoſphoric acid,	Acid of tartar,	Acid of forrel,	Acid of tartar,
Nitrous acid,	Phoſphoric acid,	Acid of tartar,	Acid of forrel,
Acid of forrel,	Acid of forrel,	Phoſphoric acid,	Phoſphoric acid,
Acid of lemon,	Acid of lemon,	Acid of lemon,	Acid of lemon,
Acetous acid,	Acetous acid,	Acetous acid,	Acetous acid,
Acid of borax,	Volatile alkali,	Acid of borax,	Acid of borax,
Fixed alkali,	Unctuous oils.	Aerial acid.	Aerial acid.
Volatile alkali.		Volatile alkali.	

BY FIRE.

Zinc,	Copper,	Copper,	Iron,
Mercury,	Iron,	Antimony,	Copper,
Copper,	Silver,	Tin,	Tin,
Antimony,	Tin,	Mercury,	Lead.
Gold,	Lead,	Silver,	Silver,
Silver,	Gold,	Gold,	Zinc,
Lead,	Zinc,	Arſenic,	Gold,
Iron,	Antimony,	Lead,	Mercury,
Arſenic,	Hepar ſulphuris,	Iron.	Arſenic,
Hepar ſulphuris,	Sulphur.		Hepar ſulphuris,
Sulphur.			Sulphur.

TABLE

Cases *of* double elective Attractions.

By WATER.

1. Epſom ſalt with Mild vegetable alkali,	Give	1. Vitriolated tartar and Common magneſia.
2. Vitriolic ammoniac with Mild mineral alkali,		2. Glauber's ſalt and Mild volatile alkali.
3. Vitriolated tartar with Nitrous ſelenite,		3. Vitriolic ſelenite and Saltpetre.
4. Vitriolated tartar with Mercurial nitre,		4. Vitriol of mercury and Saltpetre.
5. Saltpetre with Luna cornea,		5. Lunar cauſtic and Cubic nitre.
6. Vitriolated tartar with Luna cornea,		6. Vitriol of ſilver and Febrifugal ſalt.
7. Regenerated tartar with Mercurial nitre,		7. Acetous mercurial ſalt and Saltpetre.

By HEAT.

1. Vitriolic ammoniac with Common ſalt,	Give	1. Common ſal ammoniac and Glauber's ſalt.
2. Vitriolic ammoniac with Regenerated tartar,		2. Acetous ammoniacal ſalt and Vitriolated tartar.
3. Vitriol of mercury with Common ſalt,		3. Glauber's ſalt and Corroſive ſublimate.
4. Crude antimony with Corroſive ſublimate.		4. Butter of antimony and Fictitious cinnabar.

CHAP.

CHAPTER II.

Of the Pharmaceutical Apparatus.

ONE of the principal parts of the pharmaceutic apparatus conſiſts in contrivances for containing and applying fire, and for directing and regulating its power. Of theſe contrivances, called *furnaces*, there are different kinds, according to the conveniency of the place, and the particular purpoſes they are intended to anſwer. We ſhall here endeavour to give a general idea of their ſtructure, and of the principles on which they are built.

Furnaces.

THE moſt ſimple furnace is the common ſtove, otherwiſe called the furnace for OPEN FIRE. This is uſually made of an iron hoop, five or ſix inches deep; with a grate or ſome iron bars acroſs the bottom, for ſupporting the fuel. It either ſtands upon feet, ſo as to be moveable from place to place; or is fixt in brickwork. In this laſt caſe, a cavity is left under the grate, for receiving the aſhes that drop through it; and an aperture or door, in the forepart of this aſh-pit, ſerves both for allowing the aſhes to be occaſionally raked out, and for admitting air to paſs up through the fuel. This furnace is deſigned for ſuch operations as require only a moderate heat; as infuſion, decoction, and the evaporation of liquids. The veſſel, containing the ſubject matter, is ſupported over the fire by a trevet. Fig. 1.

A deeper hoop or body, cylindrical, parallelopipedal, widening upwards, elliptical, or of other figures; formed of, or lined with, ſuch materials as are capable of ſuſtaining a ſtrong fire; with a grate and aſh-pit beneath, as in the preceding; and communicating at the top with a perpendicular pipe, or chimney; makes a WIND FURNACE. Fig. 2.

The greater the perpendicular height of the chimney, the greater will be the draught of air through the furnace, and the more intenſely will the fire burn; provided the width of the chimney is ſufficient to allow a free paſſage to all the air that the furnace can receive through the grate; for which purpoſe, the area of the aperture of the chimney ſhould be nearly equal to the area of the interſtices of the grate.

Hence, where the chimney conſiſts of moveable pipes, made to fit upon each other at the ends, ſo that the length can be occaſionally increaſed or diminiſhed, the vehemence of the fire will be increaſed or diminiſhed in the ſame proportion.

In furnaces whoſe chimney is fixed, the ſame advantage may be procured on another principle. As the intenſity of the fire depends wholly upon the quantity of air ſucceſſively paſſing through and animating the burning fuel, it is obvious, that the moſt vehement fire may be ſuppreſſed or reſtrained at pleaſure, by cloſing more or leſs either the aſh-pit door by which the air is admitted, or the chimney by which it paſſes off; and

that

that the fire may be more or leſs raiſed again, by more or leſs opening thoſe paſſages. A moveable plate, or REGISTER, in any convenient part of the chimney, affords commodious means of varying the width of the paſſage, and conſequently of regulating the heat. This is moſt conveniently accompliſhed by keeping the aſh-pit door entirely ſhut, and regulating the heat by a range of holes in a damping plate; each hole is provided with a proper pin, whereby we may ſhut it at pleaſure. Theſe holes may be made to bear a certain proportion to each other; the ſmalleſt being conſidered as one, the next to it in ſize muſt have twice the opening, the next to that double of the ſecond, &c.; and ſo on to the number of ſeven or eight; and by combining theſe holes variouſly together, we can admit any quantity of air from 1 to 128; as 1. 2. 4. 8. 16. 32. 64. 128. See Fig. 7. and 8.

THERE are two general kinds of theſe wind-furnaces; one, with the chimney on the top, over the middle of the furnace, (fig. 2.); the other, with the chimney on one ſide, and the mouth clear, (fig. 3.)

In the firſt, either the upper part of the furnace is contracted to ſuch an aperture, that the chimney may ſit upon it; or it is covered with an arched dome, or with a flat plate, having a like aperture in the middle. As in this diſpoſition of the chimney, the inſide of the furnace cannot be come at from above, a door is made in the ſide, a little above the grate, for ſupplying the fuel, inſpecting the matter in the fire, &c. Fig. 2.

For performing FUSIONS in this furnace, the crucible, or melting veſſel, is placed immediately among the fuel, with a ſlip of brick, or ſome other like ſupport, between it and the grate, to keep the cold air, which enters underneath, from ſtriking on its bottom.

When deſigned as a REVERBERATORY, that is for diſtillation in long necked coated glaſs retorts, two iron bars are placed acroſs, above the fire, for ſupporting the veſſel, whoſe neck comes out at an aperture made for that purpoſe in the ſide. This aperture ſhould be made in the ſide oppoſite to the door above mentioned; or at leaſt ſo remote from it, that the receiver, fitted on the neck of the diſtilling veſſel without the furnace, may not lie in the operator's way when he wants to ſtir the fire or throw in freſh fuel. Fig. 4.

The other kind of wind furnace communicates, by an aperture in its back part near the top, either with an upright pipe of its own, or with the chimney of the room; in which laſt caſe, all other paſſages into the chimney muſt be cloſed. Here the mouth of the furnace ſerves for a door, which may be occaſionally covered with a plate or tile. Of this kind is the furnace moſt commonly uſed for fuſion in a crucible. Fig. 3.

THIS laſt conſtruction, by leaving the mouth of the furnace clear, affords the conveniency of letting into it a boiling or evaporating pan, a copper ſtill, an iron pot, for diſtilling harthorn, an iron ſand-pot, or other like veſſels, of ſuch a ſize that they may be ſupported on the furnace by their rims. The mouth being thus occupied by the veſſels, a door muſt be made in the ſide for ſupplying and ſtirring the fuel.

When a furnace of this kind is deſigned only for a *ſand bath*, it is moſt commodious to have the ſand placed on a long iron plate, furniſhed with a ledge of freeſtone or brick-work at each ſide. The mouth of the furnace

is to be closely covered by one end of this plate; and the canal by which the furnace communicates with its chimney, is to be lengthened and carried along under the plate, the plate forming the upper side of the canal. In this kind of sand-bath, digestions, &c. requiring different degrees of heat, may be carried on at once; for the heat decreases gradually from the end over the furnace to the other, Fig. 5.

When large vessels, as *stills* and iron-pots for distilling hartshorn and aquafortis, are fixed in furnaces, a considerable part of the bottom of the vessel is commonly made to rest upon solid brick-work.

The large still, whose bottom is narrow in proportion to its height, and whose weight, when charged with liquor, requires great part of it to be thus supported, expose but a small surface to the action of the fire underneath. To make up for this disadvantage, the heat, which rises at the further end of a long narrow grate, is conveyed all round the sides of the vessel by a spiral canal, which communicates at top with a common chimney.

The pots for distilling hartshorn and aquafortis in the larger way, have part of their great weight borne up by three strong pins or trunions at equal distances round the pot towards the middle reaching into a brick-work: so that less support being necessary underneath, a greater surface of the wide bottom lies exposed to the immediate action of the fire.

If a furnace, communicating with its chimney by a lateral canal, as in the sand-furnace above mentioned, be carried to a considerable height above the part where this canal enters it, and if it be filled with fuel to the top, and closely covered, the fuel will burn no higher than up to the upper side of the canal through which the air passes off; and in proportion as this lower part of the fuel consumes, it will be supplied by that above, which falls down in its place. Hence in this furnace, called an *athanor*, a constant heat may be kept up for a considerable length of time without attendance. Fig. 6.

The tower of the athanor, or that part which receives the fuel, is commonly made to widen a little downwards, that the coals may fall the more freely; but not so much as that the part on fire at bottom may be too strongly pressed. A small aperture is made opposite to the canal or flue, or a number of openings according to the size of the furnace and the degree of heat required, for supplying the air, which is more conveniently admitted in this manner than through the grate, as the interstices of the grate are in time choaked up by the ashes.

This furnace is designed only for heating bodies exterior to it. Its canal or flue, as in the sand-furnace already described, passes under a sand-bath or water-bath; at the farther end of which it rises perpendicularly to such a height, as may occasion a sufficient draught of air through the fire.

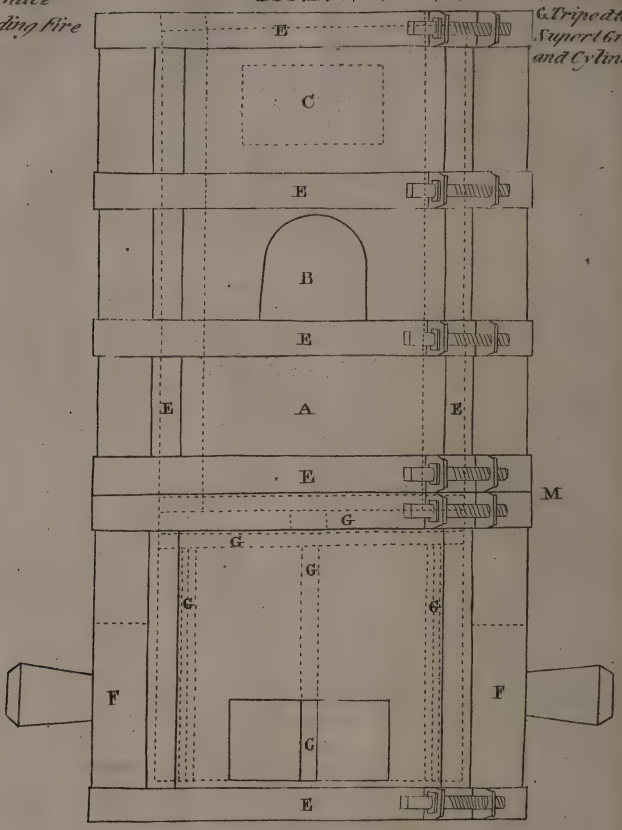
The flue may be so wide as to correspond to the whole height of the fire-place. A register or sliding plate, placed between the flue and the furnace, enable us to increase or diminish this height, and consequently the quantity of fire, at pleasure. If the space beneath the flue be inclosed to the ground, the heat in this cavity will be considerable enough to be applicable to some useful purposes.

With

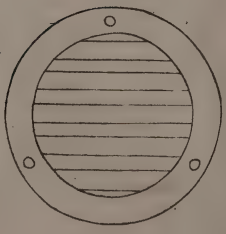
A. *Body of Furnace*
B. *Opening for feeding fire*
C. *Flue*

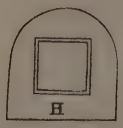
FIG. I.

F. *Braces w^th Screws*
F. *Doors to Air Holes*
G. *Tripod to Support Grate and Cylinder*

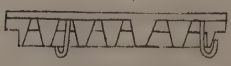


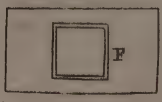
Plane of the Grate





Section of the Grate

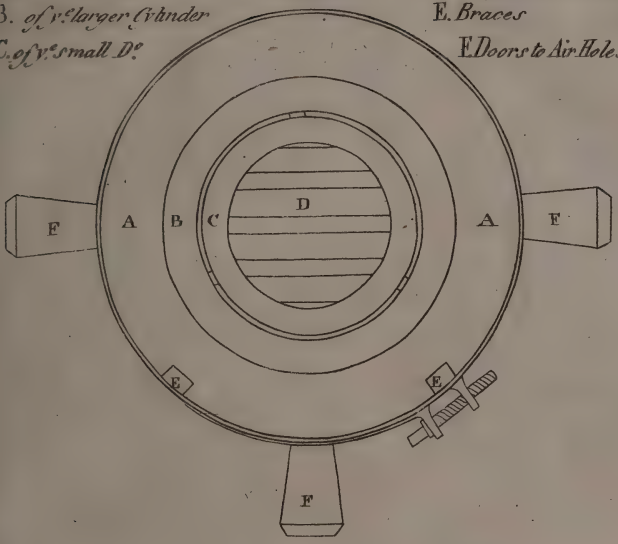




A. Thickn.s outw.d Furnace
B. of y.e larger Cylinder
C. of y.e small D.o

FIG. 2.

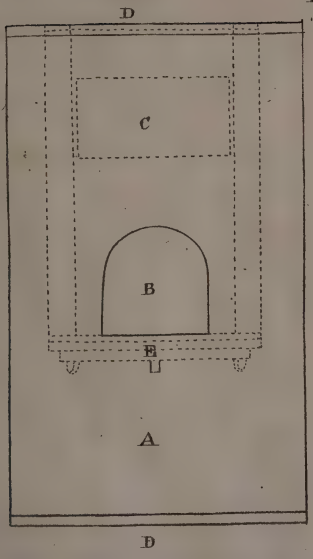
D. Grate of large Cylinder
E. Braces
F. Doors to Air Holes



Body of the Cylinder
Opening for feeding Fire
Flue
Iron Braces

FIG. 3.

E. Grate of small Cylinder



With regard to the materials of furnaces, the fixed ones are built of bricks, cemented together by ſome good loam or clay. Any kind of loam or clayey compoſition that is of a proper degree of tenacity, which, when made into a paſte with water and well-worked, does not ſtick to the fingers, and which, when thoroughly dried, neither cracks nor melts in a vehement fire, is fit for this uſe. The purer and more tenacious clays require to have their tenacity leſſened by an admixture of ſand, or rather of the ſame kind of clay burnt and groſsly powdered.

Smaller portable furnaces are made of ſtrong iron or copper plates, lined, to the thickneſs of an inch or more, with the ſame kind of clayey compoſition; which for this uſe may be beaten with ſome horſe-dung, chopped ſtraw, or cut hair or tow.

Very commodious portable furnaces, for a buſineſs of moderate extent may be formed of the larger kind of the common black-lead melting-pots; by cutting a door at the bottom of the pot for the aſh-pit, another above this for the fire-place, aad introducing a circular iron grate of ſuch a ſize as may reſt between the two doors. A particular account of the method of preparing theſe furnaces for different uſes may be ſeen in the firſt part of the Commercium Philoſophico-technicum of Dr Lewis: They are, however, liable, by the repetition of violent heats, to a kind of calcination like inflammable ſubſtances; and the heat is not regulated with ſufficient exactneſs.

In conſideration of theſe inconveniences, Dr Black has contrived one of the moſt ſimple and elegant furnaces with which we are yet acquainted. Beſides its durability, it will be found, though but one inſtrument, to anſwer all the purpoſes either of the practical or ſpeculative chemiſt. Plate I. Fig. 7. and 8.

Explanation *of* Plate I.

Fig. 1. A common ſtove which ſtands on feet, and is moveable from place to place.

A, The body of the ſtove.

B, Its feet.

C, The grate, which is that uſed in Dr Black's furnace, to be afterwards deſcribed, and which we would recommend as the beſt for every kind of portable furnace.

Fig. 2. A wind furnace.

A, Its dome.

B, The door for ſupplying fuel, and placing the matter to be wrought on.

C, The chimney.

D, The door of the aſh pit.

E, The regiſter, or damping-plate.

Fig. 3. The furnace moſt commonly uſed for fuſion in a crucible.

A, The beginning of its chimney from the back-part.

B, The mouth of the furnace, ſerving as the door.

C, The regiſter.

Fig. 4. Plan of a wind-furnace when deſigned for a reverberatory.

A, The iron bars, which cannot he ſhewn, but may very eaſily be conceived.

B, A retort ſupported on the bars.

C, The neck of the retort, coming out at an apperture of the furnace in the oppoſite ſide of the door B, Fig. 2

Fig. 5. Plan of a wind-furnace when deſigned for a ſand-bath.

A, A long iron plate, one end of which cloſely ſhuts the mouth of the furnace.

B, A ledge of free ſtone or brick-work.

C, The mouth of the canal.

D, The door for admitting fuel.

Regiſters, &c. as in the other furnaces,

Fig. 6. An athanor.

A, The tower which has a cover at the top B when uſed.

C, The fire-place.

D, The aſh-pit.

E, E, An oblong frame of metal or ſtone connected to the tower A.

F, F, A chamber connected to the fire-place C, and continued up to the chimney G. Above this chamber the reſt of the frame is lined with iron.

H, H, Which being covered with ſand, and heated by the long range of fire in the chamber below, forms the ſand-heat.

I, The regiſter.

Fig. 7. and 8, Dr Black's furnace. To render our deſcription of this inſtrument as ſimple as poſſible, let the reader ſuppoſe that the body of the common ſtove, fig. 1. is made of an oval form, and cloſed at each end by a thick iron plate. The upper plate or end of the furnace is perforated with two holes: one of theſe, A, is pretty large, and is often the mouth of the furnace; the other hole, B, is intended for fixing the vent on.

The undermoſt plate or end of the furnace has only one circular hole, ſomewhat nearer to the end of the ellipſe than the other; hence a line paſſing through the centre of both circular holes has a little obliquity forwards: this is ſhewn in fig. 8. which is a ſection of the body of the furnace, and exhibits one half of the upper and one half of the under nearly correſponding holes. The aſh-pit, fig. 7. and 8. C, is made of an elliptical form like the furnace; but is ſomewhat wider, ſo that the bottom of the furnace goes within the brim; and a little below there is a border, D, fig. 8. that receives the bottom of the furnace. Except the holes of the damping-plate E. fig. 7. and 8. the parts are all cloſed by means of a quantity of ſoft lute, upon which the body of the furnace is preſſed down, whereby the joining is made quite tight: for it is to be obſerved, that in this furnace the body, aſh-pit, vent, and grate, are all ſeparate pieces, as the furnace comes from the hands of the workman. The grate C, fig. 1. is made to apply to the outſide of the lower part or circular hole; it conſiſts of a ring ſet upon its edge, and bars likewiſe ſet on their edges. From the outer part of the ring proceed four pieces of iron, by means of which it can be ſcrewed on: it is thus kept out of the cavity of the furnace, and preſerved from the extremity of the heat,

whereby

whereby it lasts much longer. The sides of the furnace are luted, to confine the heat, and to defend the iron from its action. The luting is so managed, that the inside of the furnace forms in some measure the figure of an inverted truncated cone.

We have thus combined the two figures 7, and 8, in order to describe as exactly as possible this furnace in its entire state; but to prevent confusion, it must be understood, that fig. 7. represents the body of the furnace with its bottom received within the ash-pit. As in this figure we could not exhibit the bottom of the furnace, we have in fig. 8. supposed the body of the furnace to be cut down through its middle; whereby one half of the undermost hole, with a proportional part of the grate G applied to it, is exhibited along with, and nearly opposed to, one half of the upper hole F; the same hole which in fig. 7. is represented in its entire state by A. By fig. 8. then, the relation of the upper and under holes to one another is explained. It is also to be understood, that the ash-pit of fig. 8. is not, like the body of the furnace, divided in its middle, but is the ash-pit of fig. 7. only detached from the bottom of the furnace, in order to represent the border D, on which the bottom of the furnace is received.

Now to adapt this furnace to the different operations in chemistry, we may first observe, that for a melting furnace we need only provide a covering for the upper hole A, which in this case is made the door of the furnace. As this hole is immediately over the grate, it is very convenient for introducing and examining from time to time the substances that are to be acted on. The cover for the door may be a flat and square tyle or brick. Dr Black usually employs a sort of lid made of plate-iron with a rim that contains a quantity of luting. The degree of heat will be greater in proportion as we heighten the vent B, and to the number of holes we open in the damping-plate E: by this means the furnace may be employed in most operations in the way of assaying: and though it does not admit of the introduction of a muffle, yet if a small piece of brick is placed end-ways in the middle of the grate, and if large pieces of fuel are employed, so that the air may have free passage through it, metals may be assayed in this furnace without coming in contact with the fuel. It may therefore be employed in those operations for which a muffle is used; and thus lead and other sundry metals may be brought to their proper calces.

When we wish to employ this furnace for those distillations requiring an intense heat, the earthen retort is to be suspended by means of an iron ring, having three branches standing up from it, fig. 9. This ring hangs down from the hole A about half a foot; so that the bottom of the retort rests upon the ring, and is immediately hung over the fuel. The opening between the mouth of the furnace A is filled up with broken crucibles or potsherds, and these are covered over with ashes, which transmit the heat very slowly. This furnace then answers for distillations performed with the naked fire. Dr Black has also had some furnaces provided with a hole in the side from which the neck of the retort issued; and in this way he has distilled the phosphorus of urine, which requires a very strong heat.

For distillations with retorts, performed in the sand-bath, there is an

iron-pot (fig. 10.) fitted for the opening of the furnace A, and this is employed as a ſand-pot. In theſe diſtillations the vent B becomes the door of the furnace, and it is more eaſily kept tight than when on the ſide. When it thus ſerves for the door, it may be covered with a lid of charcoal and clay.

This furnace anſwers very well too for the common ſtill; part of which may be made to enter the opening A, and hang over the fire. In this caſe, likewiſe, the vent B is the door of the furnace, by which freſh fuel is to be added: but in ordinary diſtillations it is never neceſſary to add freſh fuel; and even in the diſtillation of mercury, phoſphorus of urine, and indeed during any proceſs whatever, the furnace generally contains ſufficient to finiſh the operation; ſo effectually is the heat preſerved from diſſipation, and the conſumption of the fuel is ſo very ſlow.

On the ſubject of furnaces, we cannot paſs over a very excellent one contrived by Dr Price. Though it is perhaps not neceſſary in the leſs operoſe proceſſes in pharmacy; yet we think an explanation of it may be entertaining and uſeful to many of our readers. The plate of this inſtrument is taken from an excellent drawing in the poſſeſſion of Dr Schwediauer.

Explanation *of* Plate II.

This furnace conſiſts of four ſeparate pieces: the body, or largeſt cylinder, divides in two at the part marked M. The outermoſt or largeſt furnace is made of the compoſition uſually employed in England for making the blue crucibles, but with a larger proportion of clay. It is ſtrongly braced with iron, as expreſſed in the drawing, with ſcrews to tighten the circular braces, which preſs on and ſecure the vertical bars. Theſe bars are terminated at each end by a clamp, which could not be very well expreſſed in the draught. The front of the furnace is alſo ſecured in the part moſt liable to ſuffer by the expanſion in heating with an iron plate.

In the lower diviſion is placed a tripod with a circular ring, which ſupports a grate that may occaſionally be changed. The tripod, by means of pieces of brick placed under the legs, may be raiſed according to the intended depth of the fire.

In the larger furnace, as thus deſcribed, may be placed a ſtill, ſand-pot, water-bath, evaporating veſſel, and the like. The fire is to be fed by the aperture B, and the ſmoke paſſes off by the flue C, whoſe dimenſions are ſhown by the dotted lines. The fire is eaſily regulated, by taking partly or entirely out the doors of the air draughts F and F.

A muffle may be placed and worked at B, this aperture being made of a proper ſhape for that purpoſe, the fuel being put in at top. The muffle being removed, a retort may be placed ſo as to have its neck paſſed through the ſame aperture; and if it be an earthen or coated glaſs one, may be worked in the naked fire, or with what is called a fire of ſuppreſſion.

This larger furnace may be alſo uſed as a wind-furnace, or melting-furnace; but is rather larger than common experiments require: it will, however, give a very ſtrong heat when employed for that purpoſe.

The

PLATE I. N°1.

FIG. 1.

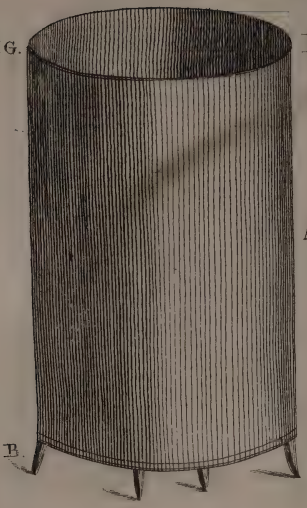


FIG. 2.

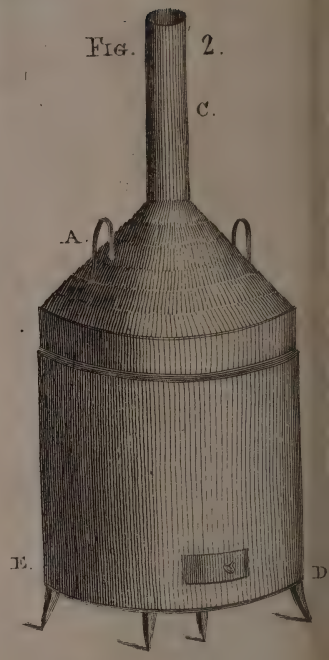


FIG. 1.

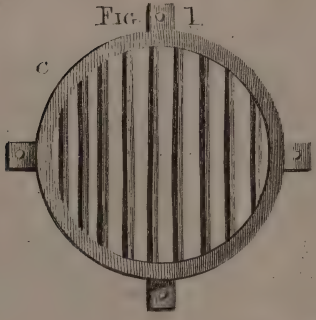


FIG. 4.

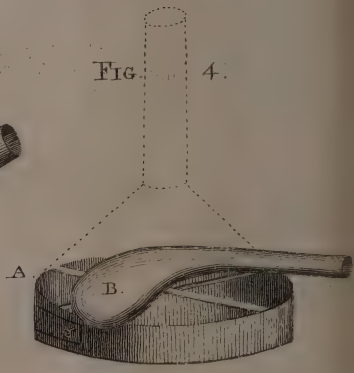


FIG. 3.

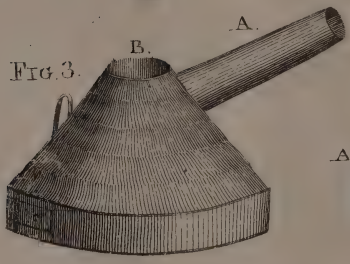


FIG. 5.

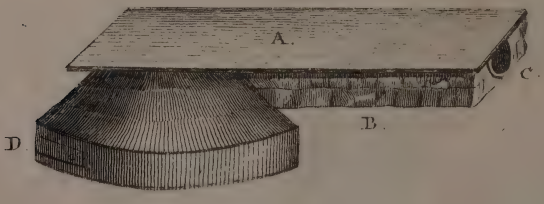


PLATE IN°2.

FIG. 6.

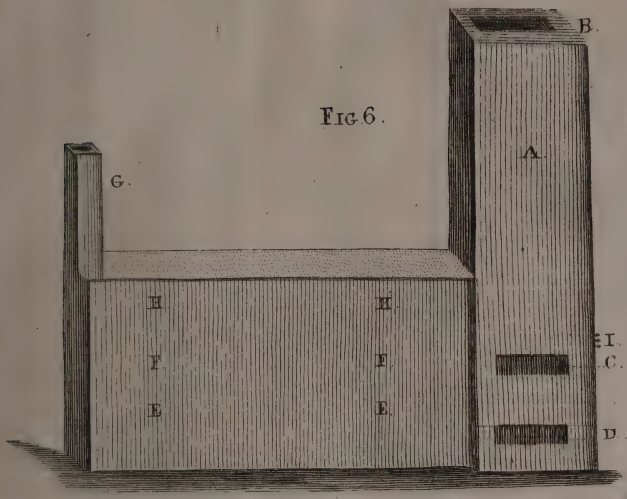


FIG. 7.

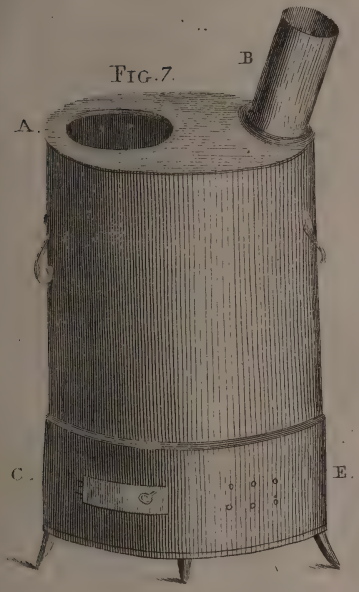


FIG. 8.

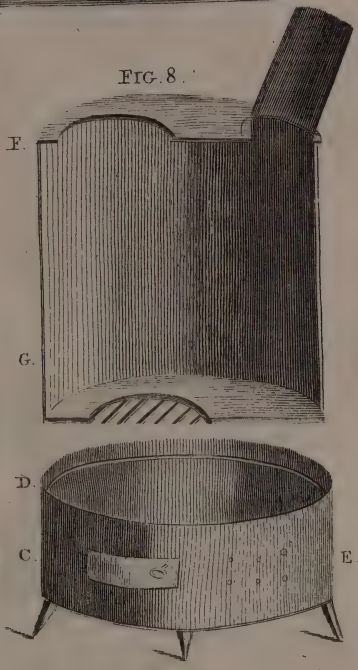


FIG. 9.

FIG. 10.

The cylinder marked A, fig. 3. is compoſed of a thick iron plate, properly faſtened to two rings of iron connected by perpendicular bars, to which alſo the plate is ſtrongly rivetted.

It is ſtuck very full of nails, whoſe points projecting inwardly hold pieces of crucibles put between them edgewiſe; and theſe are covered with a lutting of Windſor loam, Stourbridge clay, and ſome glaſs-grinders ſand, which partly vitrifying, renders the whole very compact.

This cylinder is put into the other, ſupported on the grate, and ſo placed that its apertures may correſpond with thoſe of the larger.

It thus affords a furnace in which a ſmaller ſand-pot, retort, or muffle may be worked, as in the former. It is a much more convenient wind-furnace, being fed at top, and the mouth of it covered with a kind of tile of the ſame materials with the outer furnace, which is to ſlide backwards and forwards over it. This method of charging a wind furnace is much preferable to that of putting in the crucibles and fuel thro' a door laterally.

In this furnace a very intenſe heat may be excited, which the air-draughts will afford the operator means of regulating to the greateſt exactneſs. By a proper choice of fuel, and ſome addreſs in managing the fire, the moſt refractory metals (platina *perhaps* excepted) may be fuſed in it. The regulus of manganeſe has been obtained in it: and ſteel melts without a flux in a few minutes.

It ſhould be obſerved that the ſize of the flue is full large, and therefore it may be occaſionally cloſed, partly by pieces of brick of different ſizes according to the intended purpoſe.

The ſmaller cylinder, marked C in the plan (fig. 2.), is compoſed as that juſt deſcribed, but without the aperture for the muffle, though it would not be amiſs to have a ſimilar but ſmaller aperture in this alſo. It would thus work a little ſtill, ſand pot, bath, &c. but its flue ſhould be conſiderably narrowed with ſlips of brick or tiles.

As a melting-furnace it anſwers very well for any heat not much greater than that of melting caſt iron. It can with care be made to fuſe ſteel. It ſeems particularly adapted to experiments on ſmall quantities of metal, glaſs, or the like, as it requires little fuel, and yet gives a ſufficient heat.

The grate of this cylinder is faſtened to it, and it reſts on three ſmall projections on the outſide at top, by which it catches on the ring of the ſecond cylinder, and thus hangs in it.

It ſhould be obſerved, that when theſe cylinders are uſed, the upper juncture ſhould be pointed round and well cloſed with fire-lute; and it would be advantageous to ſprinkle in ſome charcoal-duſt, which will tend, both by excluding air and by other means, to prevent the ſcorification of the iron, and may perhaps be of ſome little uſe in retaining the heat, or at leaſt will hinder the cold air from coming up and chilling the ſides.

The chimney of this furnace is about eight feet high and nearly ſix inches ſquare in the area of its cavity; but, if circumſtances had permitted, it ſhould have been at leaſt twelve feet high and much thicker than it is. However, with theſe diſadvantages, it works very well; but would probably give a much fiercer heat, had the ſituation of it ſuffered the chimney to be more lofty and maſſive.

The conſtruction of this furnace requires a lateral flue. This ſhould be ſtrongly

ſtrongly braced with iron in the part near the furnace; for otherwiſe it will infallibly fall to pieces after the furnace has been uſed for a few times.

Let it be remarked, that opening all the air-draughts and unſtopping the flue does *not* produce the greateſt heat, for reaſons which thoſe who have ſtudied the principles of the excitation of fire can readily aſſign, but which cannot be briefly explained to others. Their ſize is, however, *proper* on other accounts.

It ſhould be further noticed, that if this kind of furnace be made on a ſmaller ſcale, it would require an enlargement of the flue and door to more than the proportional ſize; and that when made very ſmall, the third cylinder may of courſe be omitted; but the bracing ſtrongly, and luting, are indiſpenſably requiſite in furnaces of every dimenſion.

Baths.

Where a ſtrong degree of heat is requiſite, as in the fuſion of metals, &c. the veſſel containing the ſubject matter is placed among the burning fuel, or immediately over it: this is called *operating in a naked fire.* Where a ſmaller heat is ſufficient, and the veſſel employed is either of glaſs, or of the more tender kinds of earthen ware, the ſand-bath or water-bath is uſed to defend the veſſel from the immediate action of the fire, and to render the heat leſs fluctuating.

Both theſe baths have their peculiar advantages and inconveniencies. In water, the heat is equal through every part of the fluid: whereas in ſand it varies in different parts of one perpendicular line, decreaſing from the bottom to the top. Water cannot be made to receive, or to tranſmit to veſſels immerſed in it, above a certain degree of heat, viz. that which is ſufficient to make it boil; and hence it ſecures effectually againſt any danger of an exceſs of heat in thoſe operations wherein the product would be injured by a heat greater than that of boiling water: but this advantage renders it uſeleſs for proceſſes which require a greater heat, and for which ſand or other ſolid intermedia are neceſſarily employed. There is this convenience alſo in the ſand-bath, that the heat may be readily diminiſhed or increaſed about any particular veſſel, by raiſing it higher out of the ſand or ſinking it deeper; that different ſubjects may be expoſed to different degrees of heat from one fire; and that it keeps the veſſels ſteady. The ſand made choice of ſhould be a large coarſe-grained kind, ſeparated from the finer parts by waſhing, and from little ſtones by the ſieve.

Coating *of* Glasses, Lutes.

Some proceſſes require to be performed with glaſs veſſels in a naked fire. For theſe purpoſes, veſſels made of the thineſt glaſs ſhould be choſen; for theſe bear the fire without cracking, much better than thoſe which are thicker, and in appearance ſtronger.

All glaſſes, or other veſſels that are apt to crack in the fire, muſt be cautiouſly nealed, that is, heated by ſlow degrees: and when the proceſs is finiſhed, they ſhould be as ſlowly cooled, unleſs where the veſſel is to be broken to get out the preparation, as in ſome ſublimations: in this caſe it is more adviſeable to expoſe the hot glaſs ſuddenly to the cold air, which will

will ſoon occaſion it to crack, than to endanger throwing down the ſublimated matter among the feces by a blow.

As a defence from the violence of the fire, and to prevent the contact of cold air on ſupplying freſh fuel, &c. the glaſs is to be coated over, to the thickneſs of about half a crown, with Windſor loam, ſoftened with water into a proper conſiſtence, and beaten up with ſome horſe-dung, or with the other clayey compoſitions above mentioned.

Theſe compoſitions ſerve alſo as a lute, for ſecuring the junctures of the veſſels in the diſtillation of the volatile ſalts and ſpirits of animals: for the diſtillation of acid ſpirits, the matter may be moiſtened with a ſolution of fixed alkaline ſalt inſtead of water. For moſt other purpoſes, a piece of wet bladder, or paſte of flour and water, or of linſeed meal (that is, the cake left after the expreſſion of oil of linſeed), are ſufficient lutes.

Sometimes clay and chalk are mixed up into a paſte, and ſpread upon ſlips of paper; and ſometimes gum arabic is uſed inſtead of the clay, and mixed up in the ſame manner.

Wet bladders contract ſo ſtrongly by drying, that they not unfrequently break the veſſels: And the fat lute of Mr Macquer, which is a compoſition of clay and chalk with oil, is too cloſe for moſt operations. Where very elaſtic ſteams are to be condenſed, we are often obliged, even where the common lutes are employed, to leave or make an opening which may be occaſionally ſtopped by a plug: By this means we give paſſage to a part of theſe vapours, which prevents the burſting of the veſſels and facilitates the condenſation of the reſt. If we wiſh to collect incondenſible vapours, we receive them into a jar inverted under a baſon of water, or quickſilver, as directed in our Analyſis of Vegetables by fire.

Beſides theſe, there are alſo required ſome other kinds of lutes for joining veſſels together in operations requiring a ſtrong heat, and for lining furnaces. Four parts of ſand and one of clay anſwers beſt for luting: but for lining the inſide of furnaces, ſix or ſeven parts of ſand to one of clay is neceſſary, in order to prevent the contraction and conſequent cracking of the clay, which it moſt readily does when freeſt of ſand. Beſides this lute immediately next to the fire, three parts, by weight, of charcoal, to one of common clay, are firſt mixed in a dry powder, and as much water is to be added as will make them form into balls of the conſiſtence of ſnow: theſe balls are beat very firm and compact, by means of a hammer, on the inſide of the furnace, to the thickneſs of about one inch and a half: the other lute is ſpread over this to about the thickneſs of half an inch; and this too is beat ſolid by means of a hammer, and allowed to dry ſlowly, that all cracks and fiſſures may be prevented. After the body of the furnace is thus lined, the vent is applied and lined in the ſame manner; and the whole being dried, which requires a long time, a fire is kindled in the furnace, which is gradually heated a day or two, and then is raiſed to the greateſt intenſity: By theſe means the whole luting requires a hardneſs equal to that of free-ſtone. Theſe are the lutes recommended and uſed by Dr Black: and, except for ſome operations in metallurgy, he ſeems to have been the firſt who thought of employing charcoal as an ingredient for the lining of furnaces.

The few ſimple lutes, here deſcribed, will be found to anſwer all the purpoſes of the more operoſe compoſitions recommended for theſe intentions by the chemical writers.

Vessels.

In this place, we shall only give the operator a few general cautions with regard to the *matter* of the vessels designed for containing the subject; and refer their description to the plates, and to the account of the operations in which they are employed.

Metalline vessels possess the advantage of being able to bear sudden alterations of heat and cold, and of being very strong, so as to be capable of confining elastic steams; but, except those made of gold or silver, they are readily corroded by acids, even by the mild ones of the vegetable kingdom. Copper vessels are corroded also by alkaline liquors, and by some neutral ones, as solutions of sal ammoniac. It is observable, that vegetable acids do not act upon this metal by boiling, so much as by standing in the cold; for even lemon juice may be boiled in a clean copper vessel, without receiving from it any taste or ill quality; whereas, in the cold, it soon dissolves so much as to contract a pernicious taint. The tin, with which copper-vessels are usually lined, gives likewise a sensible impregnation to acid juices; and this impregnation also is probably not innocent, more especially as a quantity of lead is commonly mixed with the tin. From the want of transparency in these vessels, we are also deprived of the advantage of seeing the different changes during the operation.

The earthen vessels possess none of the desirable qualities for chemical operations, except that of sustaining very violent degrees of heat, without being melted or otherwise changed. These vessels are less liable to external cracks from sudden applications of heat and cold, when they are made with a certain proportion of sand, than with pure clay. Black lead, too, mixed with the clay, makes the vessels sustain violent degrees and sudden alterations of heat surprisingly well: crude clay, reduced to a kind of sand by violent heat, and then mixed with raw clay, is also found to furnish vessels excellently fitted for those operations where sand might be corroded: but of all kinds of earthen ware, the most perfect is porcelain, composed of the finest clay mixed with a stony matter capable of melting in a violent heat. This, however, is too costly an article for general use. Reaumur discovered a method of imitating porcelain, by melting the coarser kinds of glass with a mixture of sand and clay: this has been found to be nearly of the colour of porcelain, to be much stronger than glass, and to bear the most sudden changes of heat and cold that we have occasion to apply. There has not hitherto been any manufacture of this ware; and till then it will not probably come into general use.

The common earthen vessels are of a loose porous texture; and hence are apt to imbibe a considerable quantity of certain liquids, particularly of those of the saline kind; which soon discover their penetrating the vessel, by shooting into saline efflorescences on the outside. Those which are *glazed* have their glazing corroded by acids: by vinegar, and the acid juices of fruits, as well as by the stronger acids of the mineral kingdom. And as this glazing consists chiefly of vitrified lead, the impregnation which it communicates to these liquors is of a very dangerous kind. If vinegar be boiled for some time in a glazed earthen vessel, it will yield on being inspissated, a pure sal plumbi, that is, a salt composed of lead and the acetous acid.

The vessels called, from their hardness and compactness, *stone ware*, are

PLATE. III. N°. I.

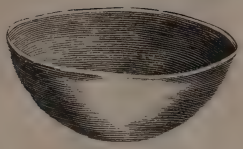
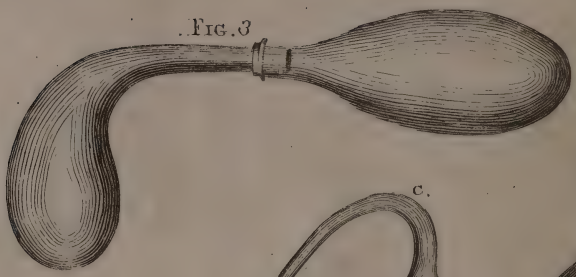


FIG. 1.

FIG. 2.

FIG. 3



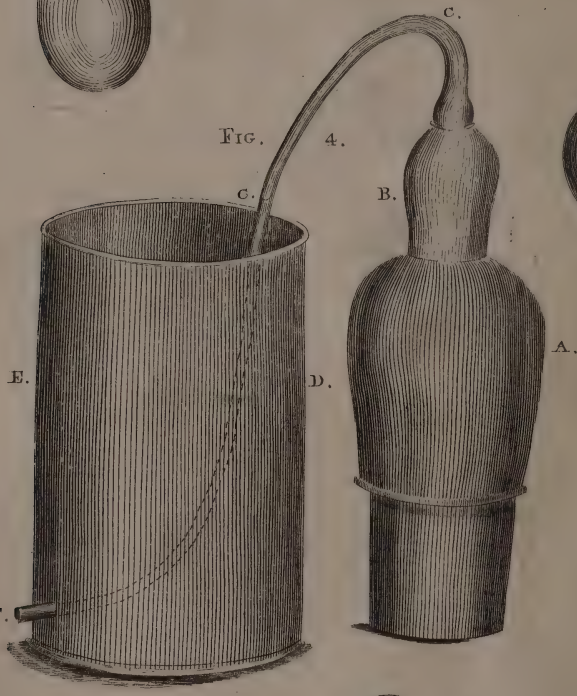


FIG. 4.

FIG. 5.

PLATE. III. N°. 2.

FIG. 6.

FIG. 7.

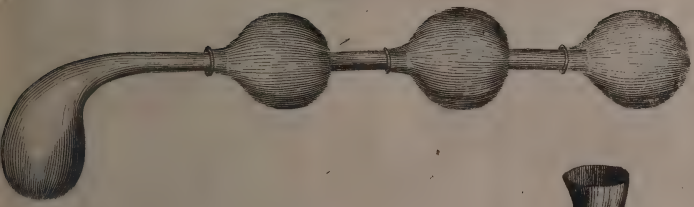


FIG. 8.

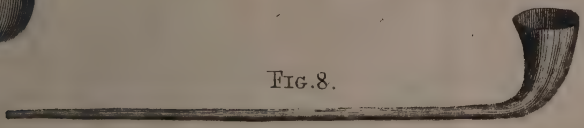
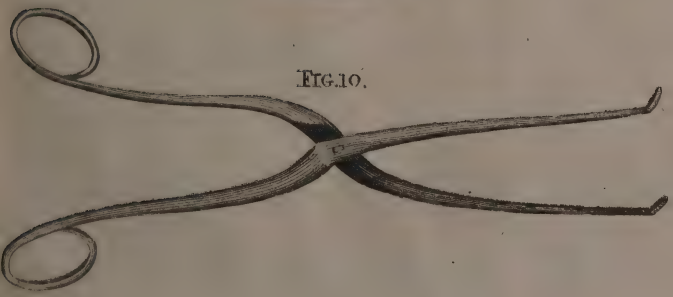


FIG. 9.

FIG. 10.



in a good meaſure free from the inconveniencies of the coarſer earthen ones. Their glazing being a part of the clay itſelf, ſuperficially vitrified by means of the fumes of common ſalt, appears to be proof againſt acids.

Glaſs-veſſels ſuffer no corroſion, and give no taint, in any of the pharmaceutic operations. When, therefore, they are made of a proper thinneſs, when they are well annealed, and when blown into a ſpherical form ſo that the heat may be equally applied, they are preferable to all others, where great and ſudden changes of heat and cold are not to take place, and where ſtrength is not required: What is called the *flint-glaſs*, which contains a quantity of lead in its compoſition, is the beſt for chemical purpoſes. Having made theſe general remarks, we next come to deſcribe the particular inſtruments uſed in pharmacy: but as the nature and uſes of each will be better underſtood after reading the following chapter, and the proceſſes in which they are employed, we ſhall here only give a ſhort explanation of the figures of theſe inſtruments; and to which the reader may occaſionally recur in going over the ſequel of the work.

Explanation *of* Plate III.

Fig. 1. An evaporating pan, being ſuch a ſection of a globe of glaſs as is beſt fitted for expoſing a large ſurface.

Fig. 2. The chemical phial or matraſs, furniſhed with a long neck for allowing the vapours raiſed by heat or mixture to circulate and be condenſed, whereby their eſcape is prevented.

Fig. 3. A retort and receiver together, to ſhew their connection during diſtillation or ſublimation. The receiver is of a conical figure; whereby the ſteams have more room to circulate and condenſe. Dr Black has found this form more convenient, when we wiſh to get out ſublimed matter.

In the laſt figure was repreſented an example of the *diſtillatio per latus*, or the diſtillation by the retort and receiver; and it is uſed in all caſes where nice operations are required, or where metallic veſſels would be corroded by the contained matter. The *diſtillatio per aſcenſum* is performed by,

Fig. 4. A copper ſtill.

A, the body of the ſtill, containing the matter.

B, The head of the ſtill into which the vapour immediately ariſes; this is made to ſit very cloſely to the body, ſo as to require little or no luting.

C, A pipe iſſuing from the middle of the top of the head, and deſcending to C, is received into the pipe D.

D, The pipe or worm deſcending into a large veſſel E, containing a quantity of cold water to keep the pipe cool, which facilitates the condenſation of the vapours.

F, The further extremity of this pipe, coming out at an opening, in the under part of the veſſel E; from this extremity the condenſed matter diſtills.

This inſtrument is on the conſtruction uſed and recommended by Dr Black, and varies a little from the common form. He finds it unneceſ-

 ſary

fary that the pipe D ſhould be made ſerpentine, which renders the cleaning of it very difficult and uncertain.

Fig. 5. A ſeparatory, for ſeparating oil from water.

This inſtrument is provided with two tubes, A, B, projecting from near its neck; and it is managed thus: If the oil to be ſeparated is ſpecifically lighter than water, the veſſel is gently inclined to one ſide, in order to pour out the oil, which from its lightneſs has aſcended into the tube: if, on the contrary, the oil is ſpecifically heavier than water, the veſſel, with its mouth ſhut, is to be inverted, that the oil at its bottom may be brought to ſink into one of the tubes; from which it is to be poured till the water begins to come off along with it, when the mouth of the tube is to be inſtantly ſhut by the top of a finger. It is obvious, that to manage this inſtrument properly, requires conſiderable addreſs and dexterity.

Fig. 6. An oblong glaſs veſſel, the under part of which is kept hot, when intended to ſublime ſolid matters, and the upper part is kept cool, whereby the vapour is condenſed in the form of a cake at the top. The mouth of the veſſel is to be ſtopt by a piece of cotton. This method is not ſo well fitted for large operations as the retort and receiver.

Fig. 7. An adopter, which is a receiver that has a pipe iſſuing from its farther extremity, and which is received into another receiver or adopter; we may increaſe or diminiſh the number of receivers at pleaſure. It may be uſeful for the condenſation of very elaſtic vapours, as thoſe of the cauſtic volatile alkali, vitriolic ether, &c. The receivers in this inſtrument are of the uſual form, and may ſhew wherein that recommended by Dr Black differs.

Fig. 8. A retort-funnel for pouring in liquors, ſo as to prevent touching the neck of the retort; and it is neceſſary that in drawing out the funnel we ſhould keep it applied to the upper part of the retort, whereby the drop hangs from the under edge of the funnel, and therefore cannot touch the inſide of the retort.

Fig. 9. A crucible, which is angled at the top for the conveniency of pouring out the contained matter. It is narrow below for receiving ſmall quantities, which in a larger compaſs might be leſs eaſily brought out. The black lead and clay crucibles are often acted on by ſaline matters, and ſometimes deſtroyed by the inflammable matter of the black lead: they, however, anſwer much better for fuſing metals than thoſe of clay and ſand. Theſe laſt anſwer beſt for ſaline ſubſtances; but being more liable to break than the other, they may be made ſecurer by incloſing the crucible containing the matter within another crucible, and filling up the interſtices with ſand.

The crucible in this figure ſtands upon a pedeſtal, which is a piece of clay or brick between the crucible and the grate, to prevent the cold air ſtriking the bottom while the top is hot; in which caſe the crucible generally breaks to pieces. To prevent the fuel from falling in, we uſe covers made of clay, or we invert another crucible upon that containing the matter, and ſecure the joining by a proper lute.

Fig. 10. A pair of crucible tongs for putting in or taking out the matter to be wrought on.

Weights.

Two different kinds of weights are made use of in this country; one in the merchandise of gold and silver; the other for almost all other goods. The first we call Troy, the latter Averdupois weight.

The goldsmiths divide the Troy pound into twelve ounces; the ounce into twenty pennyweights; and the pennyweight into twenty-four grains. The Averdupois pound is divided into sixteen ounces; and the ounce into sixteen parts, called drams.

The pound of the London and Edinburgh dispensatories is that of the goldsmiths, divided in the following manner:

The pound	contains	twelve ounces.
The ounce		eight drams.
The dram		three scruples.
The scruple		twenty grains.

The grain is equal to the goldsmith's grain.

The medical or Troy pound is less than the Averdupois, but the ounce and the dram greater. The Troy pound contains 5760 grains: the Averdupois 7000 grains The Troy ounce contains 480 grains; the Averdupois only 437½. The Troy dram 60; the Averdupois dram somewhat more than 27. Eleven drams Averdupois are nearly equal to five drams Troy; twelve ounces Averdupois to nearly eleven ounces Troy; and nineteen pounds Averdupois are equal to somewhat more than twenty-three pounds Troy.

These differences in our weights have occasioned great confusion in the practice of pharmacy. As the druggists and grocers sell by the Averdupois weight, the apothecaries have not in general kept any weights adjusted to the Troy pound greater than two drams, using Averdupois ounces. By this means it is apparent, that in all compositions, where the ingredients are prescribed, some by pounds and others by ounces, they are taken in a wrong proportion to each other; and the same happens where any are directed in lesser denominations than the ounce, as these subdivisions, used by the apothecaries, are made to a different ounce.

Measures.

The measures employed in pharmacy are the common wine measures.

A gallon	contains	eight pints (*libræ.*)
The pint		sixteen ounces.
The ounce		eight drams.

Though the pint is called by Latin writers *libra* or pound, there is not any known liquor of which a pint measure answers to that weight. A pint of the highest rectified spirit of wine exceeds a pound by above half an ounce; a pint of water exceeds it by upwards of three ounces; and a pint of oil of vitriol weighs more than two pounds and a quarter.

The Edinburgh College, sensible of the many errors from the promiscuous

cuous uſe of weights and meaſures, and of their different kinds, have in the laſt edition of their Pharmacopœia entirely rejected meaſures, and employ the Troy weight in directing the quantity either of ſolid or fluid ſubſtances. They have, however, taken all poſſible care that the proportion of the ſimples and ſtrength of the compound, ſhould neither be increaſed nor diminiſhed by this alteration. This change in the Edinburgh Pharmacopœia muſt be very particularly adverted to. And it is, we think, to be regretted, that the London College have not in the laſt edition of their Pharmacopœia followed the ſame plan.

A table of the weights of certain meaſures of different fluids may on many occaſions be uſeful, both for aſſiſting the operator in regulating their proportions in certain caſes, and ſhowing the comparative gravities of the fluids themſelves. We here inſert ſuch a table for a pint, an ounce, and a dram meaſure, of thoſe liquids, whoſe gravity has been determined by experiments that can be relied on. The wine gallon contains 231 cubic inches; whence the pint contains $28\frac{7}{8}$, the ounce $1\frac{19}{32}$, and the dram $\frac{239}{256}$ of a cubic inch.

	Pint weighs			Ounce meaſure weighs	Dram meaſure weighs
	ounces	drams	grains	grains	grains
Inflammable Spirits.					
Æthereal ſpirit of wine	11	1	36	336	42
Highly-rectified ſpirit of wine	12	5	20	380	$47\frac{1}{2}$
Common-rectified ſpirit of wine	13	2	40	400	50
Proof ſpirit	14	1	36	426	$53\frac{1}{4}$
Dulcified ſpirit of ſalt	14	4	48	438	$55\frac{1}{2}$
Dulcified ſpirit of nitre	15	2	40	460	$57\frac{1}{2}$
Wines.					
Burgundy	14	1	36	426	$53\frac{1}{4}$
Red port	15	1	36	456	57
Canary	15	6	40	475	$59\frac{1}{2}$
Expreſſed Oils.					
Oil olive	14	0	0	420	$52\frac{1}{2}$
Linſeed oil	14	2	8	428	$53\frac{1}{2}$
Eſſential Oils.					
Oil of turpentine	12	1	4	364	$45\frac{1}{2}$
of orange-peel				408	51
of juniper-berries				419	$52\frac{3}{8}$
of roſemary				430	$53\frac{3}{4}$
of origanum				432	54
of caraway ſeeds				432	54
of nutmegs				436	$54\frac{1}{2}$
of ſavin				443	$55\frac{3}{8}$
of hyſſop				443	$55\frac{3}{8}$
of cummin-ſeed				448	56
of mint				448	56
of pennyroyal				450	$56\frac{1}{4}$

	Pint weighs			Ounce measure weighs	Dram measure weighs
	ounces	grains	drams	grains	grains
ESSENTIAL OILS *continued.*					
Oil of dill-seed				457	$57\frac{1}{8}$
of fennel-seed				458	$57\frac{1}{4}$
of cloves				476	$59\frac{1}{2}$
of cinnamon				576	$49\frac{1}{2}$
of saffafras				503	$62\frac{7}{8}$
ALKALINE LIQUORS.					
Aqua kali puri, *Pharm. Lond.*	16	0	0	480	60
Spirit of sal ammoniac	17	1	10	$514\frac{3}{4}$	$64\frac{1}{3}\frac{1}{2}$
Strong soap-boilers ley	17	6	24	534	$66\frac{3}{4}$
Lixivium tartari	24	0	0	720	90
ACID LIQUORS.					
Wine-vinegar	15	3	44	464	58
Beer-vinegar	15	6	56	476	$59\frac{1}{2}$
Glauber's spirit of salt	17	4	0	525	$65\frac{5}{8}$
Glauber's spirit of nitre	20	2	40	610	$76\frac{1}{4}$
Strong oil of vitriol	28	5	20	860	$107\frac{1}{2}$
ANIMAL FLUIDS.					
Urine	15	5	20	470	$58\frac{7}{8}$
Cows milk	15	6	40	475	$59\frac{3}{8}$
Asses milk	16	0	0	480	60
Blood	16	1	4	484	$60\frac{1}{2}$
WATERS.					
Distilled water	15	1	50	$456\frac{7}{8}$	57
Rain-water	15	2	40	460	$57\frac{1}{2}$
Spring-water	15	3	12	462	$57\frac{3}{4}$
Sea-water	15	5	20	470	$58\frac{7}{8}$
QUICKSILVER.	214	5	20	6440	805

CHAP.

CHAPTER III.

Of the Pharmaceutical Operations.

SECT. I.

Solution.

SOLUTION is an intimate commixture of solid bodies with fluids into one seemingly homogeneous liquor. The dissolving fluid is called a *menstruum* or *solvent*; and the body dissolved is called the *solvend*.

Objections have been made, and perhaps with propriety, to these terms; as it is supposed that the two bodies uniting in solution act reciprocally on each other: there is, however, no danger from the words themselves, if we do not derive them from a mistaken theory. Solution cannot take place, unless one of the bodies, at least, be in a fluid state; and this fluidity is effected either by water or fire: hence solution is said to be performed in the *humid*, or in the *dry way*. Thus, for instance, if any quantity of brimstone be dissolved in a solution of fixed alkali, the brimstone is said to be dissolved in the *humid way*: but if the brimstone be dissolved by melting it in a pan with the dry alkali, the solution is said to be done in the *dry way*. The hepar sulphuris is the same in both. Another kind of solution resembling that by the dry way, is, however, to be carefully distinguished from it: If, for example, a piece of Glauber's salt is put into a pan over the fire, the salt very soon assumes a liquid state; but on continuing the heat, it loses its fluidity, and becomes a white powder: this powder is the salt freed from its water, and it is found to be very refractory. This liquidity depended on the water of crystallisation, being enabled by the heat to keep the salt in solution, and the salt ceased to be fluid as soon as its crystallising water was evaporated. This kind of solution, then, differs not from the first, or humid way.

If one of the two bodies to be united is transparent, the solution, if complete, is a transparent compound: this is the case in solutions of alkalies and calcareous earths in acids. But if the solution be opaque and milky, as is the case with soap and water, it is then considered as incomplete.

The principal menstrua used in pharmacy are, *water*, *vinous spirits*, *oils*, *acid* and *alkaline liquors*.

Water is the menstruum of all salts, of vegetable gums, and of animal gellies. Of salts, it dissolves only a determinate quantity, though of one kind of salt more than another; and being thus *saturated*, leaves any additional quantity of the same salt untouched.

Experiments have been made for determining the quantities of water which different salts require for the dissolution. Mr Eller has given a large

large set in the Memoirs of the Royal Academy of Sciences of Berlin for the year 1750, from which the following table is extracted.

Eight ounces by weight of distilled water dissolved,

	oz.	dr.	gr.
Of Refined sugar	24	0	0
Green vitriol	9	4	0
Blue vitriol	9	0	0
White vitriol	4	4	0
Epsom salt	4	0	0
Purified nitre	4	0	0
Soluble tartar	4	0	0
Common salt	3	4	0
Sal gemmæ	3	4	0
Sal catharticus Glauberi	3	4	0
Seignette's salt	3	0	0
Alum	2	4	0
Sal ammoniac	2	4	0
Vitriolated tartar	1	4	0
Salt of hartshorn	1	4	0
Sugar of lead	1	2	0
Cream of tartar	1	0	0
Borax	0	4	20

Though great care appears to have been taken in making these experiments, it is not to be expected that the proportions of the several salts, soluble in a certain quantity of water, will always be found exactly the same with these above set down. Salts differ in their solubility according to the degree of their purity, perfection, and dryness: the vitriols, and the artificial compound salts in general, differ remarkably in this respect, according as they are more or less impregnated with the acid ingredient. Thus vitriolated tartar, perfectly neutralized, is extremely difficult of solution: the matter which remains in making Glauber's spirit of nitre is no other than a vitriolated tartar; and it dissolves so difficultly, that the operator is obliged to break the retort in order to get it out; but on adding more of the vitriolic acid, it dissolves with ease. Hence many have been tempted to use an over-proportion of acid in this preparation: and we frequently find in the shops, under the name of vitriolated tartar, this acid soluble salt. The degree of heat occasions also a remarkable difference in the quantity of salt taken up: in very cold weather, eight ounces of water will dissolve only about one ounce of nitre; whereas in warm weather, the same quantity will take up three ounces or more. To these circumstances are probably owing, in part, the remarkable differences in the proportionable solubilities of salts, as determined by different authors. It is observable that common salt is less affected in its solubility by a variation of heat than any other; water in a temperate state dissolving nearly as much of it as very hot water: and accordingly this is the salt in which the different experiments agree the best. In the experiments of Hoffmann, Neumann, and Petit, the proportion of this salt, on a reduction of the numbers, comes on exactly the same, viz. three ounces of the salt to eight of water; Dr Brownrigg makes the

quantity

quantity of salt a little more; Dr Grew, a dram and a scruple more; and Eller, as appears in the above table, four drams more: so that in the trials of six different persons, made probably in different circumstances, the greatest difference is only one sixth of the whole quantity of salt; whereas in some other salts there are differences of twice or thrice the quantity of the salt. In the experiments from which the table is drawn, the water was of the temperature of between 40 and 42 degrees of Farenheit's thermometer, or above freezing by about one-seventh of the interval between freezing and the human heat.

Some salts omitted by Eller are here subjoined: the first is taken from Dr Grew, and the other four from Neumann.

Eight ounces of water dissolved

	oz.	dr.	gr.
Of fixed alkaline salt	above 8	0	0
Sal diuereticus	8	0	0
Sugar-candy, both brown and white	9	0	0
Sugar of milk	0	2	40
Essential salt of sorrel	0	1	20

Though water takes up only a certain quantity of one kind of salt, yet when saturated with one, it will still dissolve some portion of another; and when it can bear no more of either of these, it will still take up a third, without letting go any of the former. The principal experiments of this kind which have been made relative to pharmaceutic subjects, are exhibited in the following table; of which the two first articles are from Grew, and the others from Eller.

Water, 32 parts by weight,

Fully saturated with	Nitre	dissolved afterwards	Sal ammoniac	10		
	Common salt		Nitre	10	Sal ammoniac	2
	Nitre		Fixed alkali	7	Common salt	2
	Common salt		Nitre, near	2	Fixed alkali	2⅔
	Volatile alkali		Nitre	4	Sugar	2
	Sal ammoniac		Common salt	2½		
	Soluble tartar		Nitre	2		
	Vitriolated tartar		Fixed alkali	2		
	Glauber's salt		Nitre	1	Sugar	1
	Epsom salt		Sugar	6		
	Borax		Fixed alkali	2		

In regard to the other class of bodies for which water is a menstruum, viz. those of the gummy gelatinous kind, there is no determinate point of saturation: the water unites readily with any proportions of them, forming with different quantities liquors of different consistence. This fluid takes up likewise, when assisted by trituration, the vegetable gummy resins, as amoniacum and myrrh; the solutions of which, though *imperfect*, that is, not transparent, but turbid and of a milky hue, are nevertheless applicable to valuable purposes in medicine. It mingles with vinous spirits, with acid and alkaline liquors, not with oils, but imbibes some of

the

the more ſubtile parts of eſſential oils, ſo as to become impregnated with their ſmell and taſte.

Rectified *ſpirit of wine*, or rather *alkohol*, is the menſtruum of the eſſential oils and reſins of vegetables; of the pure diſtilled oils, and ſeveral of the colouring and medicinal parts of animals; of ſome mineral bituminous ſubſtances, as of ambergris; and of ſoaps, though it does not act upon the expreſſed oil and fixed alkaline ſalt, of which ſoap is compoſed: whence, if ſoap contains any ſuperfluous quantity of either the oil or ſalt, it may by means of this menſtruum be excellently purified. It diſſolves by the aſſiſtance of heat, volatile alkaline ſalts: and more readily the neutral ones, compoſed either of fixed alkali and the acetous acid, as the ſal diureticus, or of the volatile alkali and the nitrous acid as alſo the ſalt of amber, &c. It mingles with water and with acids; not with alkaline lixivia.

Oils diſſolve vegetable reſins and baſſams, wax, animal-fats, mineral bitumens, ſulphur, and certain metallic ſubſtances, particularly lead. The expreſſed oils are, for moſt of theſe bodies, more powerful menſtrua than thoſe obtained by diſtillation; as the former are more capable of ſuſtaining, without injury, a ſtrong heat, which is in moſt caſes neceſſary to enable them to act. It is ſaid, that one ounce of ſulphur will diſſolve in three ounces of expreſſed oil, particularly linſeed oil; but requires ſix ounces of eſſential oil, as turpentine.

All acids diſſolve alkaline ſalts, alkaline earths, and metallic ſubſtances. The different acids differ greatly in their action upon theſe laſt; one diſſolving only ſome particular metals; and another, others.

The *vegetable* acids diſſolve a conſiderable quantity of zinc, iron, copper, lead, and tin; and extract ſo much from the metallic part of antimony, as to become powerfully emetic: They diſſolve lead more readily, if the metal be previouſly calcined by fire, than in its metallic ſtate.

The *marine* acid diſſolves zinc, iron, and copper; and though it ſcarcely acts on any other metallic ſubſtance in the common way of making ſolutions, it may nevertheleſs be artfully combined with them all except gold. The corroſive ſublimate, and antimonial cauſtic of the ſhops, are combinations of it with mercury and the metallic part of antimony, effected by applying the acid, in the form of fume, to the ſubjects, at the ſame time alſo ſtrongly heated.

The *nitrous* acid is the common menſtruum of all metallic ſubſtances, except gold and the metallic part of antimony; of which two, the proper ſolvent is a mixture of the nitrous and marine acids, called *aqua regia*.

The *vitriolic* acid, diluted with water, eaſily diſſolves zinc and iron. In its concentrated ſtate, and aſſiſted by a boiling heat, it may be made to corrode, or imperfectly diſſolve, moſt of the other metals.

The aerial acid diſſolves iron, zinc, and calcareous earth; and thoſe ſolutions muſt be conducted without heat.

Alkaline *lixivia* diſſolve oils, reſinous ſubſtances, and ſulphur. Their power is greatly promoted by the addition of quicklime; inſtances of which occur in the preparation of ſoap, and in the common cauſtic. Thus acua-

ted, they reduce the flesh, bones, and other solid parts of animals, into a gelatinous matter.

This increased acrimony in alkaline salts, is owing to the abstraction of their fixed air; that acid having a greater attraction for quicklime than for alkalies.

Solutions made in water and in spirit of wine possess the virtues of the body dissolved; while oils generally sheath its activity, and acids and alkalies vary its quality. Hence watery and spiritous liquors are the proper menstrua of the native virtues of vegetable and animal matters.

Most of the foregoing solutions are easily effected, by pouring the menstruum on the body to be dissolved, and suffering them to stand together for some time exposed to a suitable warmth. A strong heat is generally requisite to enable oils and alkaline liquors to perform their office; nor will acids act on some metallic bodies without its assistance. The action of watery and spirituous menstrua is likewise expedited by a moderate heat; though the quantity which they afterwards keep dissolved is not, as some suppose, by this means increased: all that heat occasions these to take up, more than they would do in a longer time in the cold, will, when the heat ceases, subside again. This at least is most commonly the case, though there may be some instances of the contrary.

The action of acids on the bodies which they dissolve, is generally accompanied with heat, effervescence, and a copious discharge of fumes. The fumes which arise during the solution of some metals in the vitriolic acid, prove inflammable: hence in the preparation of the artificial vitriols of iron and zinc, the operator ought to be careful, especially where the solution is made in a narrow-mouthed vessel, lest by the imprudent approach of a candle the exhaling vapour be set on fire. This vapour is the inflammable air of Dr Priestley and other modern chemists.

There is another species of solution, in which the moisture of the air is the menstruum. Fixed alkaline salts, and those of the neutral kind, composed of alkaline salts and the vegetable acids, or of soluble earths and any acid, except the vitriolic, and some metallic salts, on being exposed for some time to a moist air, gradually attract its humidity, and at length become liquid. Some substances, not dissoluble by the application of water in its grosser form, as the butter of antimony, are easily liquefied by this slow action of the aerial moisture. This process is called *deliquation*.

SECT. II.

Extraction.

THE liquors which dissolve certain substances in their pure state, serve likewise to *extract* them from admixtures of other matter. Thus ardent spirit, the menstruum of essential oils and resins, takes up the virtues of the resinous and oily vegetables, as water does those of the mucilaginous and saline; the inactive earthy parts remaining untouched by both. Water extracts likewise from many plants, substances which by themselves it has little effect upon; even essential oils being, as we have formerly observed, rendered soluble in that fluid by the admixture of gummy and saline matter, of which all vegetables participate

in

in a greater or leſs degree. Thus many of the aromatic plants, and moſt of the bitters and aſtringents, yield their virtues to this menſtruum.

Extraction is performed, by *macerating* or *ſteeping* the ſubject in its appropriated menſtruum in the cold: or *digeſting* or *circulating* them in a moderate warmth; or *infuſing* the plant in the boiling liquor, and ſuffering them to ſtand in a covered veſſel till grown cold; or actually *boiling* them together for ſome time. If the vegetable matter is itſelf ſucculent and watery, it is ſometimes only neceſſary to expreſs the juice, and evaporate it to the proper conſiſtence.

The term *digeſtion* is ſometimes uſed for maceration; and in this caſe the proceſs is directed to be performed *without heat:* where this circumſtance is not expreſſed, digeſtion always implies the uſe of heat. Circulation differs from digeſtion only in this; that the ſteam, into which a part of the liquor is reſolved by the heat, is, by means of a proper diſpoſition of the veſſels, condenſed and conveyed back again upon the ſubject. Digeſtion is uſually performed in a matraſs (or bolt-head), Florence flaſk, or the like; either of which may be converted into a circulatory veſſel, by inverting another into the mouth, and ſecuring the juncture with a piece of wet bladder. A ſingle matraſs, if its neck be very long and narrow, will anſwer the purpoſe as effectually; the vapour cooling and condenſing before it can riſe to the top: in a veſſel of this kind, even ſpirit of wine, one of the moſt volatile liquors we know, may be boiled without any conſiderable loſs: the uſe of this inſtrument is likewiſe free from an inconvenience which may in ſome caſes attend the other, of the uppermoſt veſſel being burſt or thrown off. As the long necked matraſſes here recommended, are difficultly filled or emptied, and likewiſe very dear, a long glaſs pipe may be occaſionally luted to the ſhorter ones.

Heat greatly expedites extraction; but by this means proves as injurious to ſome ſubſtances, by occaſioning the menſtruum to take up their groſſer and more ungrateful parts, as it is neceſſary for enabling it to extract the virtues of others. Thus guaiacum and logwood impart little to aqueous liquors without a boiling heat; whilſt even a ſmall degree of warmth proves greatly prejudicial to the fine bitter of carduus benedictus. This plant, which infuſed in boiling, or digeſted in ſenſibly hot water, gives out a nauſeous taſte, ſo offenſive to the ſtomach as to promote vomiting, yields to the cold element a grateful balſamic bitter.

As heat promotes the diſſolving power of liquids; ſo cold, on the other hand, diminiſhes it. Hence tinctures or extractions made by a conſiderable heat, depoſite in cold weather a part of their contents, and thus become proportionally weaker: a circumſtance which deſerves particular regard.

SECT. III.

Depuration.

THERE are different methods of *depurating* or purifying liquors from their feculencies, according as the liquor itſelf is more or leſs tenacious, or the feculent matter of greater or leſs gravity.

Thin fluids readily depofite their more ponderous impurities upon ſtanding at reſt for ſome time in a cool place; and may then be *decanted*, or poured off clear, by inclining the veſſel.

Glutinous, unctuous, or thick ſubſtances, are to be liquefied by a ſuitable heat; when the groſſer feculencies will fall to the bottom; the lighter ariſing to the ſurface, to be *deſpumated* or ſcummed off.

Where the impurities are neither ſo ponderous as to ſubſide freely to the bottom, nor ſo light as to ariſe readily to the ſurface, they may be ſeparated in great meaſure by *colature* through ſtrainers of linen, woollen, or other cloth; and more perfectly by *filtration* through a ſoft bibulous kind of paper made for this purpoſe.

The grey paper, which covers pill-boxes as they come from abroad, is one of the beſt for this purpoſe: it does not eaſily break when wetted, or tinge the liquor which paſſes through it, which the reddiſh ſort called *bloſſom paper* frequently does. The paper is ſupported by a funnel or piece of canvas fixed in a frame. When the funnel is uſed, it is convenient to put ſome ſtraws or ſmall ſticks between the paper and its ſides, to prevent the weight of the liquor from preſſing the paper ſo cloſe to it, as not to allow room for the fluid to tranſude. In ſome caſes a funnel made of wire is put between the paper and the glaſs funnel. There is alſo a kind of glaſs funnel with ridges down its ſides made on purpoſe for this uſe.

Glutinous and unctuous liquors, which do not eaſily paſs through the pores of a filter or ſtrainer, are *clarified* by beating them up with whites of eggs; which concreting and growing hard when heated, and entangling the impure matter, ariſe with it to the ſurface: the mixture is to be gently boiled till the ſcum begins to break, when the veſſel is to be removed from the fire, the cruſt taken off, and the liquor paſſed through a flannel bag.

Decantation, colature, and filtration, are applicable to moſt of the medicated liquors that ſtand in need of purification. Deſpumation and clarification very rarely have place; ſince theſe, along with the impurities of the liquor, frequently ſeparate its medicinal parts. Thus, if the decoction of poppy heads, for making diacodium, be ſolicitouſly ſcummed or clarified, the medicine will loſe almoſt all that the poppies communicated; and inſtead of a mild opiate, turns out little other than a plain ſyrup of ſugar.

It may be proper to obſerve, that the common ſorts of filtering paper are apt to communicate a diſagreeable flavour: and hence in filtering fine bitters or other liquor, whoſe gratefulneſs is of primary conſequence, the part which paſſes through firſt ought to be kept apart for inferior purpoſes.

SECT. IV.

Crystallisation.

WATER, aſſiſted by heat, diſſolves a larger proportion of moſt ſaline ſubſtances than it can retain when grown cold; hence, on the abatement of the heat, a part of the ſalt ſeparates from the menſtruum, and concretes at the ſides and bottom of the veſſel. The concretions,

tions, unleſs too haſtily formed by the ſudden cooling of the liquor, or diſturbed in their coaleſcence by agitation, or other ſimilar cauſes, prove tranſparent and of regular figures, reſembling in appearance the natural ſpring-cryſtals.

Salts, diſſolved in a large quantity of water, may in like manner be recovered from it in their cryſtalline form, by boiling down the ſolution, till ſo much of the fluid has exhaled as that the remainder will be too little to keep the ſalt diſſolved when grown perfectly cold. It is cuſtomary to continue the evaporation till the ſalt ſhews a diſpoſition to concrete even from the hot water, by forming a pellicle on that part which is leaſt hot, viz. on the ſurface. If, large, beautiful, and perfectly figured cryſtals are required, this point is ſomewhat too late: for if the ſalt thus begins to coaleſce whilſt conſiderably hot, on being removed into a cold place its particles will run too haſtily and irregularly together; the pellicle at the ſame time falling down through the liquor, proves a farther diſturbance to the regularity of the cryſtalliſation.

In order to perform this proceſs in perfection, the evaporation muſt be gentle, and continued no longer than till ſome drops of the liquor, let fall on a cold glaſs plate, diſcover cryſtalline filaments. When this mark of ſufficient exhalation appears, the veſſel is to be immediately removed from the fire into a leſs warm, but not cold place, and covered with a cloth to prevent the acceſs of cold air, and conſequently the formation of a pellicle.

The fixed alkalies, eſpecially the mineral, when fully ſaturated with fixed air or the aerial acid, aſſume a cryſtalline form; but theſe cryſtals are not ſo perfect as when the ſame alkalies are united with the other acids; the volatile alkalies cannot cryſtalliſe, becauſe they eſcape before the menſtruum exhales.

Some even of the other neutral ſalts, particularly thoſe of which certain metallic bodies are the baſis, are ſo ſtrongly retained by the aqueous fluid, as not to exhibit any appearance of cryſtalliſation, unleſs ſome other ſubſtance be added, with which the water has a greater affinity. The Table of Affinity ſhews that ſpirit of wine is ſuch a ſubſtance; by the prudent addition of which, theſe kinds of ſalt ſeparate freely from the menſtruum, and form large and beautiful cryſtals ſcarcely obtainable by any other means.

The operator muſt be careful not to add too much of the ſpirit; leſt, inſtead of a gradual and regular cryſtalliſation, the baſis of the ſalt be haſtily precipitated in a powdery form. One twentieth part of the weight of the liquor will in moſt caſes be a ſufficient, and in ſome too large a quantity.

Different ſalts require different quantities of water to keep them diſſolved: and hence, if a mixture of two or more be diſſolved in this fluid, they will begin to ſeparate and cryſtalliſe at different periods of the evaporation. Upon this foundation, ſalts are freed, not only from ſuch impurities as water is not capable of diſſolving and carrying through the pores of a filter, but likewiſe from admixtures of each other; that which requires moſt water to diſſolve ſhooting firſt into cryſtals.

It is proper to remark, that a ſalt, when cryſtalliſing, ſtill retains and combines with a certain portion of water: this water is not eſſential to the ſalt as a ſalt, but is eſſential to a ſalt as being cryſtalliſed; it is therefore called by the chemiſts the *water of cryſtalliſation.* The quantity of this

this water varies in different ſalts; In ſome of them, as in Glauber's ſalt, alum, and copperas, it makes up about one half of their weight; in others, as in nitre, common ſalt, and eſpecially ſelenites, it is in very ſmall quantity. As ſalts unite to the water of their cryſtalliſation by their attraction for water alone, we accordingly find that this water is perfectly pure, and contains, in complete cryſtals, no ſubſtance foreign to the ſalt. Salts not only differ in the quantity of water neceſſary to their ſolution, but ſome of them are alſo ſoluble with equal facility in cold as in hot water. Sometimes, then, we employ evaporation; ſometimes cooling; and at other times both theſe expedients are uſed alternately, to ſeparate different ſalts diſſolved in the ſame liquor. It is obvious, then, that thoſe which are nearly, or equally ſoluble in cold as in boiling water, can only be cryſtalliſed by evaporation; thoſe again, which are much more ſoluble in boiling than in cold water, are to be ſeparated by cooling. Of the firſt of theſe is common or marine ſalt: of the latter is nitre or ſaltpetre. It remains, then, that we ſhould know how to ſeparate theſe two ſalts, when both of them happen to be diſſolved in the ſame water; this method conſiſts in alternate evaporation and cooling. If in ſuch a ſolution a pellicle appears in the boiling liquor before cryſtals can be formed in the cooling, we then conclude that the common ſalt predominates: In this caſe we evaporate the water, and ſeparate the common ſalt as faſt as it is formed, till the liquor on cooling ſhows cryſtals of nitre: we then allow the nitre to cryſtalliſe by cooling. After all the nitre which had been diſſolved by the heat alone has now ſeparated by cooling, we reſume the evaporation, and ſeparate the common ſalt till the cooling liquor again ſhews cryſtals of nitre. We thus repeat the ſame ſeries of operations, by which means theſe two ſalts may be alternately cryſtalliſed; the one by evaporation, the other by cooling, till they are perfectly ſeparated from each other. If in the beginning of the operation the liquor had, upon trial, given cryſtals of nitre by cooling, before any pellicle appeared on its ſurface when boiling, this would have indicated that the nitre was predominant in the ſolution; the nitre in this caſe would have been cryſtalliſed, firſt by cooling, till the quantity of nitre exceeding that of the common ſalt having been ſeparated, the common ſalt would next have cryſtalliſed in its turn by evaporation. The example we have now given may be applied to other ſalts, or to a number of ſalts which may happen to be diſſolved in the ſame liquor. For though there are few ſo completely ſoluble in cold water as common ſalt, and few ſo ſcantily as nitre; yet there are ſcarcely two ſalts which either preciſely ſhew the ſame ſolubility or the ſame appearance of their cryſtals. It is obvious, too, that by cryſtalliſation we diſcover the peculiar predominant ſalt in any ſolution of mixed ſaline matter; but as one ſalt always takes down a ſmall portion of another, it is neceſſary to rediſſolve the firſt products, and repeat the cryſtalliſation, in order to render the ſeparation complete.

We ſee, then, that though the cryſtal appearance and form does not alter the ſalt itſelf, yet that this proceſs affords an elegant method of diſcovering compound ſolutions of ſalts, of judging of their purity, and, laſtly, of ſeparating different ſalts very completely from each other. Cryſtalliſation, then, is one of the moſt important agents in pharmacy, and ought to be well underſtood. We ſhall attempt to explain the particular

ular management in cryſtalliſing particular ſalts, when we come to treat of each of them ſeparately.

SECT. V.

Precipitation.

BY this operation, bodies are recovered from their ſolutions, by means of the addition of ſome other ſubſtance, with which either the menſtruum, or the body diſſolved, have a greater affinity than they have with each other.

Precipitation, therefore, is of two kinds; one, where the ſubſtance ſuperadded unites with the menſtruum, and occaſions that before diſſolved to be thrown down; the other, in which it unites with the diſſolved body, and falls along with it to the bottom. Of the firſt, we have an example in the precipitation of ſulphur from alkaline lixivia by the means of acids; of the ſecond, in the precipitation of mercury from aquafortis by ſea-ſalt, or its acid.

The ſubjects of this operation, as well thoſe which are capable of being precipitated as thoſe which precipitate them, will readily appear from inſpection of the Table of Affinity. The manner of performing it is ſo ſimple, as not to ſtand in need of any particular directions; no more being required, than to add the precipitant by degrees, as long as it continues to occaſion any precipitation. When the whole of the powder has fallen, it is to be well *edulcorated*, that is, waſhed in ſeveral freſh parcels of water, and afterwards dried for uſe.

Where metals are employed as precipitants, as in the purification of martial vitriol from copper by the addition of freſh iron, they ought to be perfectly clean and free from any ruſty or greaſy matter; otherwiſe they will not readily, if at all, diſſolve, and conſequently the precipitation will not ſucceed; for the ſubſtance to be precipitated ſeparates only by the additional one diſſolving and taking its place. The ſeparated powder, often, inſtead of falling to the bottom, lodges upon the precipitant; from which it muſt be occaſionally ſhaken off, for reaſons ſufficiently obvious.

Though, in this operation, the precipitated powder is generally the part required for uſe, yet ſome advantage may frequently be made of the liquor remaining after the precipitation. Thus when fixed alkaline ſalt is diſſolved in water, and ſulphur diſſolved in this lixivium; the addition of acids ſeparates and throws down the ſulphur, only in virtue of the acid uniting with, and neutralizing the alkali by which the ſulphur was held diſſolved: conſequently, if the precipitation be made with the vitriolic acid, and the acid gradually dropt in till the alkali be completely ſatiated, that is, as long as it continues to occaſion any precipitation or turbidneſs, the liquor will yield, by proper evaporation and cryſtalliſation, a neutral ſalt, compoſed of the vitriolic acid and fixed alkali, that is, vitriolated tartar. In like manner, if the precipitation be made with the nitrous acid, a true nitre may be recovered from the liquor; if with the marine, the ſalt called *ſpiritus ſalis marini coagulatus*; and if with the acid of vinegar, the *ſal diureticus*.

SECT.

SECT. VI.

Evaporation.

EVAPORATION the third method of recovering ſolid bodies from their ſolutions, is effected by the means of heat; which *evaporating* the fluid part, that is, forcing it off in ſteam, the matter which was diſſolved therein is left behind in its ſolid form.

The general rules for evaporation are, To place the matter in a flat, ſhallow, wide veſſel, ſo that a large ſurface of the liquor may be preſented to the air: for it is only from the ſurface that evaporation takes place. The degree of heat ought to be proportioned to the volatility of the ſubſtance to be evaporated, and to the degree of the fixity of the matter to be left: Thus, the leſs fixed the matter to be left is, and the more ſtrongly it adheres to the volatile parts, the leſs the degree of heat ought to be; and in ſuch caſes, too, a forcible current of air is ſometimes ſcarcely admiſſible: On the contrary, when the matter to be evaporated is not very volatile, and when the matter to be left is very fixed, and does not adhere ſtrongly to the volatile part, the evaporation may be urged by a ſtrong heat, aided by a current of air directed upon the ſurface of the liquor.

This proceſs is applicable to the ſolutions of all theſe ſubſtances which are leſs volatile than the menſtruum, or which will not exhale by the heat, requiſite for the evaporation of the fluid; as the ſolutions of fixed alkaline ſalts; of the gummy, gelatinous, and other inodorous parts of vegetables and animals in water; and of many reſinous and odorous ſubſtances in ſpirit of wine.

Water extracts the virtues of ſundry fragrant aromatic herbs, almoſt as perfectly as rectified ſpirit of wine: but the aqueous infuſions are far from being equally ſuited to this proceſs with thoſe made in ſpirit; water carrying off the whole odour and flavour of the ſubject, which that lighter liquor leaves entire behind it. Thus a watery infuſion of mint loſes in evaporation the ſmell, taſte, and virtues, of the herb; whilſt a tincture drawn with pure ſpirit, yields, on the ſame treatment, a thick balſamic liquid, or ſolid gummy reſin, extremely rich in the peculiar qualities of the mint.

In evaporating theſe kinds of liquors, particular care muſt be had, towards the end of the proceſs, that the heat be very gentle; otherwiſe the matter as it grows thick will burn to the veſſel, and contract a diſagreeable ſmell and taſte: this burnt flavour is called *empyreuma*. The liquor ought to be kept ſtirring during the evaporation; otherwiſe a part of the matter concretes on the ſurface expoſed to the air, and forms a pellicle which impedes the farther evaporation. More particular directions for performing this operation to the greateſt advantage will be given hereafter.

SECT.

SECT. VII.

Distillation.

IN the foregoing operation fluids are rarefied by heat into ſteam or vapour, which is ſuffered to exhale in the air, but which it is the buſineſs of diſtillation to collect and preſerve. For this purpoſe the ſteam is received in proper veſſels, luted to that in which the ſubject is contained; and being there cooled, condenſes into a fluid form again.

There are two kinds of diſtillation; by the one, the more ſubtile and volatile parts of liquors are elevated from the groſſer; by the other, liquids incorporated with ſolid bodies are forced out from them with vehemence by fire.

To the firſt belong, the diſtillation of the pure inflammable ſpirit from vinous liquors: and of ſuch of the active parts of vegetables as are capable of being extracted by boiling water or ſpirit, and at the ſame time of ariſing along with their ſteam.

As boiling water extracts or diſſolves the eſſential oils of vegetables, while blended with the other principles of the ſubject, without ſaturation, but imbibes only a determinate, and that a ſmall proportion of them, in their pure ſtate; as theſe oils are the only ſubſtances contained in common vegetables, which prove totally volatile in that degree of heat; and as it is in them that the virtues of aromatics, and the peculiar odour and flavour of all plants, reſide; it is evident, that water may be impregnated by diſtillation, with the more valuable parts of many vegetables: that this impregnation is limited, the oil ariſing in this proceſs pure from thoſe parts of the plant which before rendered it ſoluble in water without limitation; hence greateſt part of the oil ſeparates from the diſtilled aqueous liquor, and, according to its greater or leſs gravity, either ſinks to the bottom or ſwims on the ſurface: that conſequently infuſions and diſtilled waters are very different from each other: that the firſt may be rendered ſtronger by pouring the liquor on freſh parcels of the ſubject; but that the latter cannot be in like manner improved by *cohobating*, or re-diſtilling them from freſh ingredients.

As the oils of many vegetables do not freely diſtil with a leſs heat than that in which water boils; as rectified ſpirit of wine is not ſuſceptible of this degree of heat; and as this menſtruum totally diſſolves theſe oils in their pure ſtate; it follows, that ſpirit elevates far leſs from moſt vegetables than water; but that nevertheleſs the diſtilled ſpirit, by keeping all that it does elevate perfectly diſſolved, may, in ſome caſes, prove as ſtrong of the ſubject as the diſtilled water. The more gentle the heat, and the ſlower the diſtillation goes on, the volatile parts are the more perfectly ſeparated in their native ſtate.

The apparatus made uſe for diſtilling ſpirits, waters, and oils, conſiſt of a *ſtill*, or copper veſſel, for containing the ſubject, on which is luted a large *head* with a *ſwan-neck*. The vapour ariſing into the head, is hence conveyed throw a *worm*, or long ſpiral pipe, placed in a veſſel of cold water called a *refrigeratory*; and being there condenſed, runs down into a *receiver*.

It

It may be obſerved, that as the parts which are preſerved in evaporation cannot ariſe in diſtillation, the liquor remaining after the diſtillation, properly depurated and inſpiſſated, will yield the ſame extracts as thoſe prepared from the tincture or decoction of the ſubject made on purpoſe for that uſe; the one of theſe operations collecting only the volatile parts, and the other the more fixed: ſo that where one ſubject contains medicinal parts of both kinds, they may thus be obtained diſtinct, without one being injured by the proceſs which collects the other.

The ſubjects of the ſecond kind of diſtillation are, the groſs oils of vegetables and animals, the mineral acid ſpirits, and the metallic fluid quickſilver; which as they require a much ſtronger degree of heat to elevate them than the foregoing liquors can ſuſtain, ſo they likewiſe condenſe without ariſing ſo far from the action of the fire. The diſtillation of theſe is performed in low glaſs veſſels, called, from their neck being bent to one ſide, *retorts:* to the farther end of the neck a *receiver* is luted, which ſtanding without the furnace, the vapours ſoon condenſe in it, without the uſe of a refrigeratory: nevertheleſs, to promote this effect, ſome are accuſtomed, eſpecially in warm weather, to cool the receiver, by occaſionally applying wet clothes to it, or keeping it partly immerſed in a veſſel of cold water.

The vapours of ſome ſubſtances are ſo ſluggiſh, or ſtrongly retained by a fixed matter, as ſcarce to ariſe even over the low neck of the retort. Theſe are moſt commodiouſly diſtilled in ſtreight-necked earthen veſſels, called *longnecks*, laid on their ſides, ſo that the vapour paſſes off laterally with little or no aſcent: a receiver is luted to the end of the neck without the furnace. In this manner, the acid ſpirit of vitriol is diſtilled. The matter which remains in the retort or longneck, after the diſtillation, is vulgarly called *caput mortuum*.

In theſe diſtillations, a quantity of elaſtic air is frequently generated; which, unleſs an exit be allowed, blows off or burſts the receiver. The danger of this may in good meaſure be prevented, by ſlowly raiſing the fire; but more effectually, by leaving a ſmall hole in the luting, to be occaſionally opened or ſtopt with a wooden plug; or inſerting at the juncture an upright pipe of ſuch a hight, that the ſteam of the diſtilling liquor may not be able to riſe to the top: but it is ſtill better done by fitting to the apparatus other veſſels, by which their vapours may be condenſed.

SECT. VIII.

Sublimation.

As all fluids are volatile by heat, and conſequently capable of being ſeparated, in moſt caſes, from fixed matters, by the foregoing proceſs; ſo various ſolid bodies are ſubjected to a ſimilar treatment. Fluids are ſaid to *diſtil*, and ſolids to *ſublime;* though ſometimes both are obtained in one and the ſame operation. If the ſubliming matter concretes into

into a maſs, it is commonly called a *ſublimate*; if into a powdery form, *flowers*.

The principal ſubjects of this operation are, volatile alkaline ſalts; neutral ſalts, compoſed of volatile alkalies and acids, as ſal ammoniac; the ſalt of amber, and flowers of benzoin; mercurial preparations; and ſulphur. Bodies of themſelves not volatile, are frequently made to ſublime by the mixture of volatile ones: thus iron is carried up by ſal ammoniac in the preparation of the *flores martiales*, or *ferrum ammoniacale*.

The fumes of ſolid bodies in cloſe veſſels riſe but little way, and adhere to that part of the veſſel where they concrete. Hence a receiver or condenſer is leſs neceſſary here than in the preceding operation; a ſingle veſſel, as a *matraſs*, or tall *vial*, or the like, being frequently ſufficient.

SECT. IX.

Expression.

THE *preſs* is chiefly made uſe of for forcing out the juices of ſucculent herbs and fruits, and the inſipid oils of the unctuous ſeeds and kernels.

The harder fruits, as quinces, require to be previouſly well beat or ground; but herbs are to be only moderately bruiſed. The ſubject is then included in a hair-bag, and preſſed between wooden plates, in the common ſcrew-preſs, as long as any juice runs from it.

The expreſſion of oils is performed nearly in the ſame manner as that of juices; only here, iron-plates are ſubſtituted for the wooden ones there made uſe of. The ſubject is well pounded, and included in a ſtrong canvaſs bag, between which and the plates of the preſs a haircloth is interpoſed.

The inſipid oils of all the unctuous ſeeds are obtained, uninjured, by this operation, if performed without the uſe of heat; which though it greatly promotes the extraction of the oil, at the ſame time impreſſes an ungrateful flavour, and increaſes its diſpoſition to grow rancid.

The oils expreſſed from aromatic ſubſtances generally carry with them a portion of their eſſential oil; hence the ſmell and flavour of the expreſſed oils of nutmegs and mace. They are very rarely found impregnated with any of the other qualities of the ſubject: oil of muſtard-ſeed, for inſtance, is as ſoft and void of acrimony as that of the almond, the pungency of the muſtard remaining entire in the cake left after the expreſſion.

SECT. X.

Exsiccation.

THERE are two general methods of exſiccating or drying moiſt bodies; in the one, their humid parts are exhaled by heat; in the other, they are imbibed or abſorbed by ſubſtances, whoſe ſoft and ſpongy texture adapts them to that uſe. Bodies intimately combined with, or diſſolved in a fluid, as recent vegetables and their juices, require the firſt: ſuch as are only ſuperficially mixed, as when earthy or indiſſoluble pow-

ders are ground with water, are commodiouſly ſeparated from it by the ſecond.

Vegetables and their parts are uſually exſiccated by the natural warmth of the air: the aſſiſtance of a gentle artificial heat may, nevertheleſs, in general, be not only ſafely, but advantageouſly had recourſe to. By a moderate fire, even the more tender flowers may be dried, in a little time, without any conſiderable loſs, either of their odour or lively colour; which would both be greatly injured or deſtroyed by a more ſlow exſiccation in the air. Some plants indeed, particularly thoſe of the acrid kind, as horſeradiſh, ſcurvy-graſs, and arum, loſe their virtues by this proceſs, however carefully performed; but far the greater number retain them unimpaired, and often improved.

The thicker vegetable juices may be exſiccated by the heat of the ſun; or, where this is not ſufficient, by that of a water-bath, or an oven moderately warm. The thinner juices may be gently boiled till they begin to thicken, and then treated as the foregoing. The proceſs, termed *inſpiſſation* or *evaporation*, has been ſpoken of already. The juices of ſome plants, as arum root, briony root, orris root, wild cucumbers, &c. ſeparate, upon ſtanding for ſome time, into a thick part, which falls to the bottom; and a thin aqueous one, which ſwims above it: this laſt is to be poured off, and the firſt exſiccated by a gentle warmth. Preparations of this kind have been uſually called *fæculæ*; that of the cucumber, to be ſpoken of in its place, is the only one which practice now retains.

Indiſſoluble bodies, mixed with water into a thick conſiſtence, may be eaſily freed from the greateſt part of it, by dropping them on a *chalk-ſtone*, or ſome powdered chalk preſſed into a ſmooth maſs, which readily imbibes their humidity. Where the quantity of fluid is large, as in the edulcoration of precipitates, it may be ſeparated by decantation or filtration.

We before obſerved, that one of the principal circumſtances favouring fermentation, was a certain degree of moiſture. Exſiccation is therefore employed to diſſipate humidity, and render vegetables thereby leſs liable to thoſe changes produced by a kind of inſenſible fermentation.

SECT. XI.

Comminution.

Comminution is the bare reduction of ſolid coherent bodies into ſmall particles or powder. The methods of effecting this are various, according to the texture of the ſubject.

Dry friable bodies, or ſuch as are brittle and not very hard, and mixtures of theſe with ſomewhat moiſt ones, are eaſily *pulveriſed* in a *mortar*.

For very light, dry ſubſtances, reſins, and the roots of tenaceous texture, the mortar may in ſome caſes be previouſly rubbed with a little ſweet oil, or a few drops of oil be occaſionally added: this prevents the finer powder of the firſt from flying off, and the others from cohering under the peſtle. Camphor is commodiouſly powdered by rubbing it with a little rectified ſpirit of wine.

Tough ſubſtances, as woods, the peels of oranges and lemons, &c. are moſt conveniently *raſped*; and ſoft oily bodies, as nutmegs, paſſed through a *grater*.

The

The comminution of the harder minerals, as calamine, cryſtal, flint, &c. is greatly facilitated by *extinction*; that is, by heating them red-hot, and quenching them in water: by repeating this proceſs a few times, moſt of the hard ſtones become eaſily pulveriſable. This proceſs, however, is not to be applied to any of the alkaline or calcareous ſtones; leſt, inſtead of an inſipid powder, we produce an acrimonious calx or lime.

Some metals, as tin, though ſtongly cohering in their natural ſtate, prove extremely brittle when heated, inſomuch as to be eaſily divided into ſmall particles by dexterous agitation. Hence the officinal method of pulveriſing tin, by melting it, and, at the inſtant of its beginning to return into a ſtate of ſolidity, briſkly ſhaking it in a wooden box. The comminution of metals, in this manner, is termed by the metallurgiſts *granulation*.

On a ſimilar principle, certain ſalts, as nitre, may be reduced into powder in large quantity, by diſſolving them in boiling water, ſetting the ſolution over a moderate fire, and keeping the ſalt conſtantly ſtirring during its exſiccation, ſo as to prevent its particles, disjoined by the fluid, from reuniting together into larger maſſes.

Powders are reduced to a great degree of fineneſs by *triturating*, or rubbing them, for a length of time, in a mortar. Such as are not diſſoluble in water, or injured by the admixture of that fluid, are moiſtened with it into the conſiſtence of a paſte, and *levigated* or ground in a flat ſmooth *marble* or *iron plate*; or where a large quantity is to be prepared at a time, in *mills* made for that uſe.

Comminution, though one of the moſt ſimple operations of pharmacy, has, in many caſes, very conſiderable effect. The reſinous purgatives, when finely triturated, are more eaſily ſoluble in the animal fluids, and conſequently prove more cathartic, and leſs irritating, than in their groſſer ſtate. Crude antimony, which, when reduced to a tolerably fine powder, diſcovers little medicinal virtue, if levigated to a great degree of ſubtility, proves a powerful medicine in many chronical diſorders.

By comminution, the heavieſt bodies may be made to float in the lighteſt fluids*, for a longer or ſhorter time, according to their greater or leſs degree of tenuity. Hence we are furniſhed with an excellent criterion of the fineneſs of certain powders, and a method ſeparating the more ſubtile parts from the groſſer, diſtinguiſhed by the name of *elutrition*, or *waſhing over*.

SECT.

* Some attribute this effect to a diminution of the ſpecific gravity of the body; and, at the ſame time, ſuppoſe the peculiar virtues of certain medicines, particularly mercury, to be in great meaſure owing to their gravity. If theſe hypotheſes were juſt, it ſhould follow, that the mercurial preparations, by being finely comminuted, would loſe proportionably of their efficacy; and ſo indeed mercurius dulcis, for inſtance has been ſuppoſed to do. But experience ſhews, that this is far from being the caſe; and that comminution by no means leſſens, but rather increaſes, its power: when reduced to a great degree of ſubtility, it paſſes readily into the habit, and operates, according to its quantity, as an alterative or a ſialogogue; while in a groſſer form, it is apt to irritate the ſtomach and bowels, and run off by the inteſtines, without being conveyed into the blood.

SECT. XII.

Fusion.

FUSION is the reduction of ſolid bodies into a ſtate of fluidity by fire. Almoſt all natural ſubſtances, the pure earths and the ſolid parts of animals and vegetables excepted, melt in proper degrees of fire; ſome in a very gentle heat, while others require its utmoſt violence.

Turpentine, and other ſoft reſinous ſubſtances, *liquefy* in a gentle warmth; wax, pitch, ſulphur, and the mineral bitumens, require a heat too great for the hand to ſupport: fixed alkaline ſalt, common ſalt, nitre, require a red, or almoſt white, heat to melt them; and glaſs, a full white heat.

Among metallic ſubſtances, tin, biſmith, and lead, flow long before ignition: antimony likewiſe melts before it is viſibly red-hot, but not before the veſſel is conſiderably ſo: the regulus of antimony demands a much ſtronger fire. Zinc begins to melt in a red heat; gold and ſilver require a low white heat; copper, a bright white heat; and iron, an extreme white heat.

One body, rendered fluid by heat, becomes ſometimes a menſtruum for another, not fuſible of itſelf in the ſame degree of fire. Thus red-hot ſilver melts on being thrown into melted lead leſs hot than itſelf: and thus if ſteel, heated to whiteneſs, be taken out of the furnace, and applied to a roll of ſulphur, the ſulphur inſtantly liquefying, occaſions the ſteel to melt with it; hence the *chalybs cum ſulphure* of the ſhops. This concrete, nevertheleſs, remarkably impedes the fuſion of ſome other metals, as lead; which when united with a certain quantity of ſulphur is ſcarce to be perfectly melted by a very ſtrong fire. Hence the method, deſcribed in its place, of purifying zinc; a metal upon which ſulphur has no effect from the lead ſo frequently mixed with it.

Sulphur is the only unmetallic ſubſtance which mingles in fuſion with metals. Earthy, ſaline, and other like matters, even the calces and glaſſes prepared from metals themſelves, float diſtinct upon the ſurface, and form what is called *ſcoria* or droſs. Where the quantity of this is large in proportion to the metal, it is moſt commodiouſly ſeparated by pouring the whole into a conical mould: the pure metal or *regulus*, though ſmall in quantity, occupies a conſiderable height in the lower narrow part of the cone; and when congealed, may be eaſily freed from the ſcoriæ by a hammer. The mould ſhould be previouſly greaſed, or rather ſmoaked, to make the metal come freely out: and thoroughly dried and heated, to prevent the exploſion which ſometimes happens from the ſudden contact of melted metals with moiſt bodies.

SECT. XIII.

Calcination.

BY calcination is underſtood the reduction of ſolid bodies, by the means of fire, from a coherent to a powdery ſtate, accompanied with a change of their quality; in which laſt reſpect this proceſs differs from comminution.

To this head belong the burning of vegetable and animal matters, otherwiſe called *uſtion*, *incineration*, or *concremation*; and the change of metals into a powder, which in the fire either does not melt, or *vitrifies*, that is, runs into glaſs.

The metals which melt before ignition, are calcined by keeping them in fuſion for ſome time. The free admiſſion of air is eſſentially neceſſary to the ſucceſs of this operation; and hence, when the ſurface of the metal appears covered with calx, this muſt be taken off or raked to one ſide, otherwiſe the remainder excluded from the air will not undergo the change intended. If any coal, or other inflammable matter which does not contain a mineral acid, be ſuffered to fall into the veſſel, the effect expected from this operation will not be produced, and part of what is already calcined will be *revived* or *reduced*: that is, it will return into its metallic form again.

Thoſe metals which require a ſtrong fire for fuſion, calcine with a much leſs heat than is ſufficient to make them flow. Hence the burning or *ſcorification* of ſuch iron or copper veſſels as are long expoſed to a conſiderable fire without defence from the air. Gold and ſilver are not calcinable by any degree of fire.

In calcination, the metals viſibly emit fumes: nevertheleſs the weight of the calx proves greater than that of the metal employed. The antimonial regulus gains about one eleventh part of its weight; zinc, ſometimes, one-tenth; tin, above one-ſixth; and lead in its converſion into minium, often one-fourth.

The calcination of metallic bodies, gold, ſilver, and mercury excepted, is greatly promoted by nitre. This ſalt expoſed to the fire in conjunction with any inflammable ſubſtances, extricates their inflammable matter, and burſts with it into flame, accompanied with a hiſſing noiſe. This proceſs is uſually termed *deflagration* or *detonation*.

All the metallic calces and ſcoriæ are revived into their metallic ſtate by fuſion with any vegetable or animal inflammable matter. They are all more difficult of fuſion than the reſpective metals themſelves; and ſcarcely any of them, thoſe of lead and biſmuth excepted, can be made to melt at all, without ſome addition, in the ſtrongeſt fire that can be produced in the common furnaces. The additions called *fluxes*, employed for promoting the fuſion, conſiſt chiefly of fixed alkaline ſalts. A mixture of alkaline ſalt with inflammable matter, as powdered charcoal, is called a *reducing flux*, as contributing at the ſame time to bring the calx into fuſion, and to revive it into metal. Such a mixture is commonly prepared from one part of nitre and two parts of tartar, by grinding them well together, ſetting the powders on fire with a bit of coal or a red-hot iron, then covering the veſſel, and ſuffering them to deflagrate or burn till they are changed into a black alkaline coaly maſs. This is the common reducing flux

flux of the chemists, and is called from its colour the *black flux*. Metallic calces of scoriæ, mingled with twice their weight of this compound, and exposed to a proper fire in a close covered crucible, melt and resume their metallic form; but though they received an increase of weight in the calcination, the revived metal is always found to weigh considerably less than the quantity from which the calx was made.

PART

PART II.

MATERIA MEDICA.

THE MATERIA MEDICA comprehends all thoſe ſubſtances, whether natural, or artificial, that are employed in medicine.

Much pains have been beſtowed by the writers on the materia medica, in attempting to form uſeful arrangements of theſe articles. Some have arranged them according to their natural affinities; others according to their active conſtituent parts; and a third ſet, according to their real or ſuppoſed virtues. It muſt, indeed be allowed, that ſome of theſe arrangements are not without conſiderable uſe, as throwing light upon the nature and qualities of particular articles; but no arrangement has yet been propoſed which is not liable to numerous objections. Accordingly, in the Pharmacopœias publiſhed by the Colleges of Phyſicians both of London and Edinburgh, the articles of the materia medica are arranged in alphabetical order; and the ſame plan is now alſo adopted in almoſt every Pharmacopœia of much eſtimation lately publiſhed on the continent of Europe. This plan, therefore, we ſhall here follow; ſubjoining to the name of each article which we think ought to enter ſuch a liſt, a ſhort view of its natural, medical, and pharmaceutical hiſtory. But to conjoin with this the advantages of other methods to the hiſtory of the materia medica given in alphabetical order, we ſhall add ſome of thoſe arrangements which ſeem to be the moſt uſeful, particularly thoſe of Dr Murray of Goettingen, and of Drs Cullen and Duncan of Edinburgh.

ABELMOSCHUS [*Brun.*] *Semina*
Hibiscus abelmoschus Linnæi.
Musk seed.

These seeds are the product of a plant indigenous in Egypt, and in many places both of the East and West Indies. They are of a small size, and reniform shape; they are very remarkable from possessing a peculiar and very fragrant odour; the smell which they give out may be compared to that of musk and amber conjoined: those brought from the island of Martinico are generally esteemed the most odorous, but we have seen some the product of hot-houses in Britain, which, in point of flavour, seemed not inferior to any imported from abroad.

These seeds, although introduced into some of the foreign pharmacopœias, have hitherto been principally, if not only, used as a perfume; and as their medicinal powers still remain to be ascertained, it is perhaps with propriety that hitherto no place has been given them in the list either of the London or Edinburgh Colleges. But their peculiar flavour, as well as other sensible qualities, point them out as a subject well deserving a particular investigation.

ABIES [*Gen.*] *Summitates coni.*
Pinus abies & pinus picea Lin.
The common and the Scotch fir.

These are large evergreen trees, frequent in northern climates. Tho' they have now no place either in the London or Edinburgh Pharmacopœias, yet they stand in several of the foreign ones, and are employed for different purposes in medicine. They are indigenous in some parts of Britain but are chiefly to be met with planted in the fields, where they grow with great luxuriance. From these trees, in different parts of Germany, the Strasburgh turpentine is extracted. The branches and the fruit, or cones, gathered about the end of autumn, abound with a resinous matter, and yield, on distillation, their essential oil, and a liquor impregnated with a peculiar acid. It has been stiled *acidum abietis*; and when added to water, is thought to communicate to it both the taste and other properties of tar-water. The acidum abietis was frequently prescribed by the late Dr Hope in the Royal Infirmary of Edinburgh; and he thought that he found good effects from it in some instances of obstinate coughs, particularly in those cases of chronic catarrh, which are often benefited by diuretics. The wood and tops of the fir-tree are sometimes employed under the form of decoction or infusion, with the view of promoting urine and sweat; and these formulæ have been thought serviceable in healing internal ulcerations, particularly those of the urinary passages.

Infusions of the spruce-fir are much employed in Canada, with a view both to the prevention and cure of genuine scorbutus. And we are told, that with these intentions they were found beneficial in the British army at Boston, when the scurvy prevailed in an alarming degree.

ABROTONUM [*Lond.*] *Folium.*
ABROTANUM [*Ed.*] *Herba.*
Artemisia abrotanum Lin.
Southernwood.

This is a shrubby plant, clothed with very finely-divided leaves of a light-green colour. The flowers, which are very small and yellowish, hang downwards, several together, from the middle of the branches to the top. It is not, like some other species of the artemisia, indigenous in Britain; but though a native of warm climates, it readily bears the vicissitudes of ours, and is easily cultivated in gardens;

gardens; from thence alone it is obtained when employed for medical purposes; the leaves fall off every winter, but the roots and stalks continue for many years.

Southernwood has a strong smell, which, to most people, is not disagreeable; it has a pungent, bitter, and somewhat nauseous taste. These qualities are very completely extracted by rectified spirit, and the tincture thus formed is of a beautiful green colour. They are less perfectly extracted by watery liquors, the infusion being of a light brown colour.

Southernwood, as well as some other species of the same genus, particularly the absinthium and santonicum, has been recommended as an anthelmintic; and it has also been sometimes used as a stimulant, detergent, and sudorific. It has likewise been employed externally in discutient and antiseptic fomentations. It has also been used under the form of lotion and ointment for cutaneous eruptions, and for preventing the hair from falling off. But although it still retains a place in the pharmacopœias both of London and Edinburgh, it does not enter any fixed formula in either of these works, and is at present very little employed in practice.

ABSINTHIUM MARITIMUM [*Lond.*] *Cacumen.*

Artemisia maritima Lin.

Sea-wormwood, the tops.

The leaves of sea-wormwood are much smaller than those of the common: they are hoary on the upper side as well as the lower; the stalks also are hoary all over. It grows wild about salt marshes, and in several parts about the sea-coasts.—In taste and smell it is weaker and less unpleasant than the common wormwood. The tops of sea-wormwood formerly entered some of the compound distilled waters; but they are now rejected, and are very little employed in practice.

ABSINTHIUM VULGARE [*Lond. Ed.*] *Folia.*

Summitates florentes.

Artemisia absinthium Lin.

Common wormwood; the leaves and flowering tops.

The leaves of this sort of wormwood are divided into roundish segments, of a dull green colour above, and whitish underneath. It grows wild in several parts of Britain; about London, large quantities are cultivated for medicinal use: it flowers in June and July; and after having ripened its seeds, dies down to the ground, excepting a tuft of the lower leaves, which generally abides the winter.

Wormwood is a strong bitter; and was formerly much used as such, against weakness of the stomach, and the like, in medicated wines and ales; but its use with these intentions, is exceptionable, on account of the ill relish and offensive smell with which it is accompanied. It may be freed from these qualities partly by keeping, and totally by long coction, the bitter remaining entire. An extract made by boiling the leaves in a large quantity of water, and evaporating the liquor, proves a bitter sufficiently grateful, without any disgustful flavour. This extract, which had formerly, though not now, a place in the Edinburgh pharmacopœia, is still retained in some of the best foreign ones; but it is probably less active than the strong tincture now directed by the Edinburgh college.

ACACIA VERA [*Brun.*]

Mimosa nilotica Lin.

Acacia is the inspissated juice of the

the unripe fruit of the same tree which produces the gum arabic.

This juice is brought to us from Egypt, in roundish masses, wrapt up in thin bladders. It is outwardly of a deep brown colour, inclining to black; inwardly of a reddish or yellowish brown; of a firm consistence, but not very dry. It soon softens in the mouth, and discovers a rough, not disagreeable taste, which is followed by a sweetish relish. This inspissated juice entirely dissolves in watery liquors; but rectified spirit of wine scarcely produces any effect on it.

Acacia is a mild astringent medicine. The Egyptians give it in spitting of blood, to the quantity of a dram, dissolved in any convenient liquor: and repeat this dose occasionally: they likewise employ it in collyria for strengthening the eyes, and in gargarisms for quinseys. Among us it is little used, and is rarely met with in the shops. What is usually sold for the Egyptian acacia, is the inspissated juice of unripe sloes: this is harder, heavier, of a darker colour, and somewhat sharper taste, than the true sort. In several pharmacopœias, as in the Suecica and Genevensis, this article has a place under the title of Acacia Nostras.

ACETOSA [*Lond. Ed.*] *Folium.*
Rumex Acetosa Lin.
Sorrel; the leaf.

Sorrel grows wild in fields and meadows throughout England. The leaves have a restringent acid taste, without any smell of particular flavour: their medical effects are, to cool, quench thirst, and promote the urinary discharge: a decoction of them in whey affords an useful and agreeable drink in febrile or inflammatory disorders: and is recommended by Boerhaave to be used in the spring as one of the most efficacious aperients and detergents. Some kinds of scurvies have yielded to the continued use of this medicine: the Greenlanders, who are very subject to this distemper, are said to employ, with good success, a mixture of the juices of sorrel and of scurvygrass.

The roots of sorrel have a bitterish austere taste, without any acidity: they are said to be deobstruent and diuretic. They had formerly a place in the Edinburgh pharmacopœia, but are now rejected from it. They are still, however, retained in the pharmacopœia Suecica, and some other of the best foreign ones: but they have little other effect than of giving a reddish colour to the articles with which they are combined.

The seeds of this plant were formerly used in diarrhœas and dysenteries; but have long been strangers to the shops, and are now justly expunged both from the London and Edinburgh pharmacopœias, and indeed from most of the foreign ones. They have no remarkable smell, and scarcely any taste.

ACETUM VINI [*Ed.*]
Vinegar: an acid produced from fermented vinous liquors by a second fermentation.

Wine vinegar is considerably purer than that prepared from malt liquors; the latter, however acid and fine, contains a large portion of a viscous mucilaginous substance; as is evident from the ropiness and sliminess to which this kind of vinegar is very much subject; the stronger and more spiritous the wine, the better and stronger vinegar it yields. The French vinegars are said by Geoffrey to saturate above one thirty-fifth of their weight of fixed alkaline salt, and some of them no less than one-twelfth; the best of the German vinegars little more than one-fortieth.

Vinegar is a medicine of excellent

lent use in all kinds of inflammatory and putrid disorders, either internal or external: in ardent, bilious fevers, pestilential and other malignant distempers, it is recommended by Boerhave as one of the most certain sudorifics. Weakness, fainting, vomiting, hicup, hysterical and hypochondriacal complaints, have been frequently relieved by vinegar applied to the mouth and nose, or received into the stomach. It has been used internally in rabies canina. It is often usefully employed as a powerful menstruum for extracting the virtues of other articles.

ACIDUM VITRIOLICUM.

[*Lond, Ed.*]

Vitriolic acid.

This is inserted in the Materia Medica on account of its being generally made, not by the apothecary, but by the trading chemist, and most commonly from sulphur. The operation is performed in leaden vessels, sometimes 20 feet high and 10 broad; with an eighth-part of nitre to supply the absence of the external air, and some water to condense the steams. It is concentrated and considerably purified by evaporation. It is then colourless, without smell, extremely corrosive, very fixed, and the most ponderous of all unmetallic fluids. Its specific gravity in its true state, according to the London College, should be to that of distilled water as 1.850 to 1.000. It powerfully attracts water from the air, and in uniting with water produces a great degree of heat. It possesses the general properties of acids in an eminent degree.

On account of its fluidity, it is not used as a corrosive. Blended with unctuous matter in the proportion of one to eight, it is applied in itch and other chronic eruptions, and likewise as a rubefacient in local palsy and rheumatism. Diluted with water, it shews considerable action on the human calculus out of the body; and therefore has been proposed internally in that disease, particularly where surgical operation is improper. As checking fermentation, as well as being astringent and tonic, it is much used in morbid acidity, relaxation, and weakness of the stomach. Its effects are propagated over the system; and hence its established use in passive hæmorrhagies, gleets, and fevers of the typhous kind. It is also used internally in itch and other chronical eruptions; and when given to nurses having the itch, it is said to cure both themselves and their children. As combined with ardent spirit, with different metallic substances, &c. it enters several articles to be mentioned afterwards.

ACONITUM [*Lond.*] *Herba;* [*Ed.*] *Folia.*

Aconitum napellus Lin.

Large blue Wolfsbane, or Monk's-hood; the herb and leaves.

This is a perennial plant, growing naturally in various mountainous parts of Europe. The juice has a disagreeable smell and an acrid taste, becoming less acrid on inspissation. It has long been considered as one of the most active of the vegetable poisons, and when taken to any considerable extent, it occasions sickness, vomiting, purging, vertigo, delirium, fainting, cold sweats, convulsions, and even death. Dr Stoerk of Vienna was probably the first who employed it for medical purposes; and he recommended it to the attention of other practitioners, in a treatise published in 1762. He represents it as a very effectual remedy in glandular swellings, venereal nodes, anchylosis, spina ventosa, itch, amaurosis, gouty and rheumatic pains, intermittent fevers,

fevers, and convulsive disorders. Stoerk's formula was two grains of the inspissated juice rubbed down with two drams of sugar. He began with ten grains of this powder night and morning, and increased it gradually to six grains of the inspissated juice twice a day. Others have used a tincture made of one part of the dry leaf, and six parts of spirit of wine, in the dose of forty drops. But although the aconitum has now a place in the Pharmacopœias both of the London and Edinburgh Colleges, and likewise in most of the other modern Pharmacopœias, yet it has by no means answered those expectations which might have been formed from Dr Stoerk's account. It is, however, unquestionably a very active, and in some cases an useful article.

ACORUS, vide CALAMUS AROMATICUS.

ÆRUGO [*Ed.*] Verdegris.

This is a preparation of copper, made chiefly at Montpelier in France, by stratifying copperplates with grape stalks that have been impregnated with a fermented vegetable acid: in a few days, the plates are found covered with a pale green downy matter, which is scraped off from the copper, and the process again repeated. The appellation therefore of Cuprum Acetatum as some authors call it, gives a proper idea of its constituent parts.

Verdegris, as it comes to us, is generally mingled with stalks of the grape; they may be separated, in pulverization, by discontinuing the operation as soon as what remains seems to be almost entirely composed of them.

Verdegris is rarely or never used internally. Some writers highly extol it as an emetic, and say, that a grain or two being taken acts as soon as received into the stomach; but its use has been too often followed by dangerous consequences to allow of its employment. Verdegris applied externally, proves a gentle detergent and escharotic, and serves to take down fungous flesh arising in wounds. With these intentions it is an ingredient in different officinal compositions, particularly in the aqua sapphar. et ung. ex æruginis.

ADEPS SUILLA [*Lond.*]
AXUNGIA PORCINA [*Ed.*]
Hogs lard.

In hogs-lard we have a very pure animal fat, almost entirely free from any peculiar impregnation, and of a soft consistence. Hence it is a very useful emolient for relaxing those parts to which it is applied; and it is also a very convenient article for giving the proper consistence to ointments, plasters, and liniments. Indeed this and the sevum ovillum or mutton-suet, are the only fats now retained by the London and Edinburgh Colleges, although formerly more than twenty different fats entered some lists of the materia medica. Each particular fat was then supposed to possess peculiar properties; but for this there is probably no foundation: even those retained are now less employed than before, as it has been imagined that a proper consistence of any kind may be more certainly obtained by determined proportions of wax and oil; but as these articles are more expensive, hogs-lard and mutton-suet are often substituted for them by the apothecaries.

AGARICUS [*Rosa.*]
Boletus pini laricis Lin.

Agaric; a fungus growing on old larch trees.

This fungus is an irregular spongy substance, extremely light, and of

of an uniform snowy whiteness, (except the cortical part, (which is usually taken off before the agaric is brought into the shops). It cuts freely with a knife, without discovering any hardness or grittiness, and readily crumbles between the fingers into a powder. It has no remarkable smell; its taste is at first sweetish; but on chewing for a short time, it proves acrid, bitter, and nauseous.

Agaric was formerly in great esteem as a cathartic, but is seldom used at present. It is now rejected both by the London and Edinburgh Colleges, but it still retains a place in most of the new foreign Pharmacopœias. It operates exceeding slowly, insomuch that some authors have denied it to have any purgative virtue at all. Given in substance, it generally occasions a nausea, not unfrequently vomiting, and sometimes excessive tormina of the bowels; these effects are attributed to its light farinaceous matter adhering to the coats of the intestines, and producing a constant irritation. The best preparation of agaric seems to be an extract made with water, in which fixt alkaline salt has been dissolved; or with vinegar or wine: the first is said by Boulduc, and the two latter by Neumann, to prove an effectual and safe purgative. Nevertheless, this is at best a precarious medicine, and we have many better purges.

AGARICUS CHIRURGORUM: [*Ed.*]

Boletus igniarius Lin.

Female agaric, or agaric of the oak, called, from its being very easily inflammable, Touchwood, or Spunk.

This fungus is frequently met with, on different kinds of trees, in England; and is said to have been sometimes brought into the shops mixt with the true agaric of the larch: from this it is easily distinguishable by its greater weight, dusky colour, and mucilaginous taste void of bitterness. The medullary part of this fungus, beaten soft, and applied externally, has been much celebrated as a styptic; and said to restrain not only venal but arterial hæmorrhagies, without the use of ligatures. It does not appear, however, to have any real styptic power, or to act any otherwise than dry lint, sponge, or other soft fungous applications.

AGNUS CASTUS [*Brun.*] *Semen.*

Vitex agnus castus Lin.

The chaste tree; its seeds.

This is a small tree, or rather shrub, growing spontaneously in Italy, &c. and raised with us in gardens. Its fruit, which is about the size of a pepper-corn, contains four longish seeds, said to be of an aromatic smell, and an acrid bitterish taste; but which are found on examination to be almost inodorous and insipid. These seeds have been celebrated as antiphrodisiacs, and were formerly much used by the monks for allaying the venereal appetite; but experience does not warrant their having any such virtues.

AGRIMONIA [*Ross.*] *Herba.*

Agrimonia eupatoria Lin.

Agrimony; the plant.

This is a common plant in hedges and the borders of fields. The leaves have an herbaceous, somewhat acrid, roughish taste, accompanied with an aromatic flavour. Agrimony was supposed to be aperient, detergent, and to strengthen the tone of the viscera: hence it has been recommended in scorbutic disorders, in debility and laxity of the intestines, &c.

Digested

Digeſted in whey, it affords a diet-drink, not ungrateful to the palate or ſtomach, which is uſed by ſome in the ſpring. It is very little employed by regular practitioners, and has no place in the liſt either of the London or Edinburgh Colleges.

ALCHEMILLA [*Brun.*] *Folia.*
Alchemilla vulgaris Lin.
Ladies mantle; the leaves.

This plant grows wild in many parts of England, but it is rarely met with about London: the leaves ſeem as if plaited or folded together, ſo as to have given occaſion to the Engliſh name of the plant. The leaves of alchemilla diſcover to the taſte a moderate aſtringency, and were formerly much eſteemed in ſome female weakneſſes and in fluxes of the belly. They are now rarely uſed; though both the leaves and roots might doubtleſs be of ſervice in caſes where mild aſtringents are required.

ALKEKENGI [*Brun.*] *Baccæ.*
Phyſalis alkekengi Lin.
Winter cherry; the berries.

This is a low, branched ſhrub, with leaves like thoſe of nightſhade; and white flowers, which ſtand ſingle at the joints. The flower-cup changes into a membranous cover, which at length burſts and diſcovers a fruit of a fine red colour, about the ſize of a common cherry. The fruit ripens in October, and continues frequently to the middle of December. This plant grows wild in ſome parts of France, Germany, &c. the beauty and lateneſs of its fruit have gained it a place in our gardens.

Winter cherries have in general been repreſented by moſt writers to be extremely bitter: but, as Haller juſtly obſerves, the cherry itſelf, if carefully freed from the cover (which is very bitter and pungent), has merely a ſubacid taſte. They were formerly highly recommended as detergent, aperient, diuretic, and for expelling gravel; four, five, or more of the cherries are directed for a doſe, or an ounce of the expreſſed juice. Mr Ray tells us of a gouty perſon who was cured and kept free from returns of this diſorder, by taking eight of theſe cherries at each change of the moon; they occaſioned a copious diſcharge of extremely fetid urine.

They have not, however, ſupported this character with others; inſomuch that they have now no place either in the London or Edinburgh Pharmacopœias, and are very little employed by any Britiſh practitioner.

ALLARIA [*Brun.*] *Herba.*
Eryſimum alliaria Lin.
Saucealone, or jack-by-the-hedge; the plant.

This plant is common in hedges and ſhady waſte-places, flowering in May and June. The leaves have a bitteriſh acid taſte; and, when rubbed between the fingers, emit a ſtrong ſmell, approaching to that of garlic. They have been recommended internally as ſudorifics and deobſtruents, ſomewhat of the nature of garlic, but much milder; and externally as antiſeptics in gangrenes and cancerous ulcers. Hildanus uſed to gather the herb for theſe laſt purpoſes in the ſpring, and expoſe it for a day to the action of a dry air in a ſhady place; being then committed to the preſs, it yielded a juice poſſeſſing the ſmell and taſte of the allaria: this, he informs us, with a little oil on the ſurface, keeps in perfection for years; whereas the herb in ſubſtance ſoon loſes its virtue in keeping. At preſent they are very little employed either in medicine or ſurgery.

ALLIUM

ALLIUM [*Lond. Ed.*] *radix.*
Allium ſativum Lin.
Garlick; the root.

Theſe roots are of the bulbous kind, of an irregularly roundiſh ſhape, with ſeveral fibres at the bottom: each root is compoſed of a number of leſſer bulbs, called cloves of garlick, incloſed in one common membraneous coat, and eaſily ſeparable from each other. All the parts of this plant, but more eſpecially the roots, have a ſtrong offenſive ſmell, and an acrimonious almoſt cauſtic taſte. The root applied to the ſkin inflames, and often exulcerates the part. Its ſmell is extremely penetrating and diffuſive; when the root is applied to the feet, its ſcent is ſoon diſcoverable in the breath; and taken internally, its ſmell is communicated to the urine, or the matter of an iſſue, and perſpires through the pores of the ſkin.

This pungent root warms and ſtimulates the ſolids, and attenuates tenacious juices. Hence, in cold leucophlegmatic habits, it proves a powerful expectorant, diuretic, and, if the patient be kept warm, ſudorific; it has alſo been ſuppoſed to be emmenagogue. In catarrhous diſorders of the breaſt, flatulent colics, hyſterical, and other diſeaſes proceeding from laxity of the ſolids, it has generally good effects: it has likewiſe been found ſerviceable in ſome hydropic caſes. Sydenham relates, that he has known the dropſy cured by the uſe of garlick alone; he recommends it chiefly as a warm ſtrengthening medicine in the beginning of the diſeaſe.

Garlick is alſo a favourite remedy in the cure of intermittents; and it has been ſaid to have ſometimes ſucceeded in obſtinate quartans, after the Peruvian bark had failed, particularly when taken to the extent of one or two cloves daily in a glaſs of brandy or other ſpirits.

The liberal uſe of garlick is apt to occaſion headachs, flatulencies, thirſt, febrile heats, inflammatory diſtempers, and ſometimes diſcharges of blood from the hæmorrhoidal veſſels. In hot bilious conſtitutions, where there is already a degree of irritation, and where there is reaſon to ſuſpect an unſound ſtate of the viſcera, this ſtimulating medicine is manifeſtly improper, and never fails to aggravate the diſtemper.

The moſt commodious form for taking garlick, a medicine to moſt people not a little unpleaſant, is that of a bolus or pill. Infuſions in ſpirit, wine, vinegar, and water, although containing the whole of its virtues, are ſo acrimonious, as to be unfit for general uſe. A ſyrup and oxymel of it were formerly kept in the ſhops; but it does not now enter any officinal preparation in our pharmacopœias; and it is proper that even the pills ſhould always be an extemporaneous preſcription, as they ſuffer much from keeping.

Garlick made into an ointment with oils, &c. and applied externally, is ſaid to reſolve and diſcuſs cold tumors, and has been greatly eſteemed in cutaneous diſeaſes. It has likewiſe ſometimes been employed as a repellent. When applied under the form of a poultice to the pubis, it has ſometimes proved effectual in producing a diſcharge of urine, when retention has ariſen from a want of due action of the bladder; and ſome authors have recommended, in certain caſes of deafneſs, the introduction of a ſingle clove, wrapt in thin muſlin or gauze, into the meatus auditorius. Sydenham aſſures us, that among all the ſubſtances which occaſion a derivation or revulſion from the head, none operates more powerfully than garlick applied to the ſoles of the feet: hence

he was led to uſe it in the confluent ſmall pox: about the eighth day after the face began to ſwell, the root cut in pieces, and tied in a linen cloth, was applied to the ſoles, and renewed once a-day till all danger was over.

ALNUS [*Roſs.*] *Folia.*
Betula alnus Lin.

The leaves and bark of the alder tree.

They have a bitter ſtyptic diſagreeable taſte. The bark is recommended in intermittent fevers; and a decoction of it, in gargariſms, for inflammations of the tonſils; but it is little employed in modern practice.

ALOE [*Lond. Ed.*]
Aloe perfoliata Lin.
Aloes.

Aloe is the inſpiſſated juice of certain plants of the ſame name. The antients diſtinguiſhed two ſorts of aloes: the one was pure and of a yellowiſh colour inclining to a red, reſembling the colour of a liver, and thence named hepatic; the other was full of impurities, and hence ſuppoſed to be only the droſs of the better kind. At preſent, various ſorts are met with in the ſhops; which are diſtinguiſhed either from the places from whence they are brought, from the ſpecies of the plants, or from ſome differences in the juices themſelves. Three different kinds may be mentioned, although two of them only have now a place in our pharmacopœias.

(1.) ALOE SOCOTORINA [*Lond. Ed.*]
Socotorine aloes.

This article is brought from the iſland Socotora in the Indian ocean, wrapt in ſkins; it is obtained from the *variety ξ of Aloe perfoliata Lin.* This ſort is the pureſt of the three: it is of a gloſſy ſurface, clear, and, in ſome degree pellucid; in the lump, of a yellowiſh red colour, with a purple caſt; when reduced to powder, of a bright golden colour. It is hard and friable in the winter, ſomewhat pliable in ſummer, and grows ſoft between the fingers. Its taſte is bitter, accompanied with an aromatic flavour, but inſufficient to prevent its being diſagreeable; the ſmell is not very unpleaſant, and ſomewhat reſembles that of myrrh.

(2.) ALOE BARBADENSIS [*Lond.*] HEPATICA [*Ed.*]
Barbadoes, or hepatic aloes.

Hepatic aloes is not ſo clear and bright as the foregoing ſort: it is alſo of a darker colour, more compact texture, and for the moſt part drier. Its ſmell is much ſtronger and more diſagreeable: the taſte intenſely bitter and nauſeous, with little or nothing of the fine aromatic flavour of the Socotorine. The beſt hepatic aloes come from Barbadoes in large gourd ſhells; an inferior ſort of it (which is generally ſoft and clammy) is brought over in caſks.

(3.) ALOE CABALLINA.
Fetid, caballine, or horſe aloes.

This ſort is eaſily diſtinguiſhed from both the foregoing, by its ſtrong rank ſmell; although, in other reſpects, it agrees pretty much with the hepatic, and is not unfrequently ſold in its ſtead. Sometimes the caballine aloes is prepared ſo pure and bright, as not to be diſtinguiſhable by the eye even from the Socotorine; but its offenſive ſmell, of which it cannot be diveſted, readily betrays it. It has not now a place in the liſt of almoſt any modern pharmacopœia, and is employed chiefly by farriers.

All the ſorts of aloes diſſolve in pure ſpirit, proof ſpirit, and proof ſpirit

ſpirit diluted with half its weight of water; the impurities only being left. They diſſolve alſo by the aſſiſtance of heat in water alone; but as the liquor grows cold, the reſinous part ſubſides, the gummy remaining united with the water. The hepatic aloes is found to contain more reſin and leſs gum than the Socotorine, and this than the caballine. The reſins of all the ſorts, purified by ſpirit of wine, have little ſmell: that obtained from the Socotorine has ſcarce any perceptible taſte; that of the hepatic, a ſlight bitteriſh reliſh; and the reſin of the caballine, a little more of the aloetic flavour. The gummy extracts of all the ſorts are leſs diſagreeable than the crude aloes: the extract of Socotorine aloes has very little ſmell, and is in taſte not unpleaſant; that of the hepatic has a ſomewhat ſtronger ſmell, but is rather more agreeable in taſte than the extract of the Socotorine; the gum of the caballine retains a conſiderable ſhare of the peculiar rank ſmell of this ſort of aloes, but its taſte is not much more unpleaſant than that of the extracts made from the two other ſorts.

Aloes is a ſtimulating cathartic bitter: if given in ſo large a doſe as to purge effectually, it often occaſions an irritation about the anus, and ſometimes a diſcharge of blood. Small doſes of it frequently repeated, not only cleanſe the primæ viæ, but likewiſe warm the habit, quicken the circulation, and promote the uterine and hemorrhoidal fluxes. This medicine is particularly ſerviceable in habitual coſtiveneſs, to perſons of a phlegmatic temperament and ſedentary life, and where the ſtomach is oppreſſed and weakened: in dry bilious habits aloes prove injurious, immoderately heating the body, and inflamming the bowels.

The juice is likewiſe, on account of its bitterneſs, ſuppoſed to kill worms, either taken internally, or applied in plaſters to the umbilical region. It is alſo celebrated for reſtraining external hemorrhagies, and cleanſing and healing wounds and ulcers.

The antients gave aloes in much larger doſes than is cuſtomary at preſent. Dioſcorides orders half a dram or a dram for gently looſening the belly; and three drams when intended to have the full effect of a cathartic. But modern practice rarely exceeds a ſcruple, and limits the greateſt doſe to two ſcruples. For the common purpoſes of this medicine, ten or twelve grains ſuffice: taken in theſe or leſs quantities, it acts as a general ſtimulating eccoprotic, capable of removing, if duly continued, very obſtinate obſtructions.

Aloes are much leſs frequently uſed to operate as a purgative than merely to obviate coſtiveneſs; and indeed their purgative effect is not increaſed in proportion to the quantity that is taken. Perhaps the chief objection to aloes, in caſes of habitual coſtiveneſs, is the tendency which they have to induce and augment hæmorrhoidal affections. And with thoſe, liable to ſuch complaints, they can ſeldom be employed. Their purgative effect ſeems chiefly to depend on their proving a ſtimulus to the rectum.

Some authors are of opinion, that the purgative virtue of aloes reſides entirely in its reſin: but experience has ſhewn, that the pure reſin has little or no purgative quality; and that the gummy part ſeparated from the reſinous, acts more powerfully than the crude aloes. If the aloes indeed be made to undergo long coction in the preparation of the gummy extract, its cathartic power will be conſiderably leſſened, not from the ſeparation of the reſin, but from an alteration made in the juice itſelf

itself by the heat. The strongest vegetable cathartics become mild by a like treatment, without any remarkable separation of their parts.

Socotorine aloes, as already observed, contain more gummy matter than the hepatic; and hence are likewise found to purge more, and with greater irritation. The first sort, therefore, is most proper where a stimulus is required, as for promoting or exciting the menstrual flux; whilst the latter is better calculated to act as a common purge. It is supposed that the vulnerary and balsamic virtues of this juice reside chiefly in the resin; and hence that the hepatic aloes, which is most resinous, is most serviceable in external application.

Aloes enter many of the officinal preparation and compositions, especially different pills and tinctures. And according to the particular purposes for which these are intended, sometimes the Barbadoes, sometimes the socotorine aloes, are the most proper. But of these we shall afterwards have occasion to speak.

ALTHEA [*Lond. Ed.*] *Radix, folium.*

Althea officinalis Lin.

Marsh-mallows. The leaf and root.

Though this plant grows spontaneously in marshes, and other moist places, in several parts of England; it is frequently cultivated for medicinal use. All the parts of it have a slimy taste, and abound with a soft mucilaginous substance, which is readily extracted by water; the mucilage of the roots appears to be the strongest; and hence this part is generally used in preference to the others.

This plant has the general virtues of an emollient medicine; and proves serviceable where the natural mucus of the intestines is abraded. It is chiefly recommended in sharp defluxions upon the lungs, hoarseness, dysenteries, and likewise in nephritic and calculous complaints; not, as has been supposed, that this medicine has any peculiar power of dissolving or expelling the calculus; but as, by lubricating and relaxing the vessels, it procures a more free and easy passage. Althæa root is sometimes employed externally for softening and maturating hard tumors: chewed, it is said to give ease in difficult dentition of children.

This root gave name to an officinal syrup [*Lond. Ed.*] decoction [*Ed.*] and ointment. [*Lond.*] and was likewise an ingredient in the compound powder of gum tragacanth, and the oil and plaster of mucilages [*Lond.*] though it does not appear to communicate any particular virtue to the two last, its mucilaginous matter not being dissoluble in oils.

And of all these formulæ the syrup alone is now retained.

ALUMEN [*Lond. Ed.*]

Alum.

Alum is a salt artificially produced from certain minerals, by calcining and exposing them to the air; after which the alum is elixated by means of water. The largest quantities are prepared in England, Germany, and Italy.

This salt is of a white or pale red colour, of an austere styptic taste, accompanied with a nauseous sweetishness. It dissolves in about twelve times its weight of water; and concretes again, upon duly evaporating the solution, into semi-transparent crystals, of an octagonal figure. Exposed to the fire, it easily melts, bubbles up in blisters, emits a copious phlegm, and then turns into a light spongy white mass, considerably more acrid than the alum was at first: this urged with a stronger fire,

yields

yields a small quantity of acid spirit, similar to that obtained by the same means from vitriol; the part which remains, if the heat has been sufficiently intense and long continued, is an insipid white earth, readily soluble in every kind of acid.

Solutions of alum coagulate milk, change the blue colour of vegetable juices into a red or purple, and turn an infusion of galls turbid and whitish. Upon adding fixt alkaline salts to these solutions, the earth of the alum is precipitated, its acid uniting with the alkali into a neutral saline concrete similar to vitriolated tartar.

Alum is a powerful astringent: it is reckoned particularly serviceable for restraining hæmorrhagies, and immoderate secretions from the blood; but less proper in intestinal fluxes. In violent hæmorrhagies, it may be given in doses of fifteen or twenty grains, and repeated every hour or half hour till the bleeding abates: in other cases, smaller doses are more advisable; large ones being apt to nauseate the stomach, and occasion violent constipations of the bowels. It is used also externally, in astringent and repellent lotions and collyria. Burnt alum taken internally has been highly extolled in cases of colic. In such instances, when taken to the extent of a scruple for a dose, it has been said gently to move the belly, and give very great relief from the severe pain.

Its officinal preparations are, for internal use, *pulvis styptícus*, and *aqua styptica* [*Ed.*] for external applications, the *aqua aluminis*, *coagulatum aluminis* [*Lond.*] and *alumen ustum* [*Lond. Ed.*] which last is no other than the alum dried by fire, or freed from the watery moisture, which, like other salts, it always retains in its crystalline form. By this loss of its water it becomes sharper, so as to act as a slight escharotic; and it is chiefly with this intention that it is employed in medicine, being very rarely taken internally.

AMBRAGRISEA [*Dan.*]

Ambra ambrosiaca Lin.

Ambergris.

Ambergris is a bituminous substance of a greyish or ash colour, intermingled with yellowish and blackish specks or veins: it is usually met with in little opaque rugged masses, very light, of a loose texture, friable in a certain degree like wax; they break rough and uneven, and not unfrequently contain pieces of shells, bones of fishes, and other like matters. This concrete is found floating on the surface of the sea, or thrown out upon the shores; the greatest quantities are met with in the Indian ocean; pieces have likewise been now and then discovered in our own and other northern seas. Dr Schwediauer supposes it to be an animal product, from its being so frequently found in the belly of the *physeter macrocephalus Lin.*

Pure ambergris softens between the fingers; melts in a small degree of heat into the appearance of oil, and in a stronger heat proves almost totally volatile. Warmed a little, it emits a peculiar fragrant smell; set on fire, it smells like burning amber. It dissolves, though difficultly, in spirit of wine and essential oils; but not in expressed oils or in water.

Ambergris is in general the most agreeable of the perfumes, and rarely accompanied with the inconveniences which other substances of this class frequently occasion. It has been looked upon as an high cordial, and esteemed of great service in all disorders of the head, and in nervous complaints; a solution of it in a spirit distilled from roses, stands recommended by Hoffman as

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one of the moſt efficacious corroborants of the nervous ſyſtem. The Orientals entertain an high opinion of the aphrodiſiac virtues of this concrete; they likewiſe ſuppoſe that the frequent uſe of it conduces to long life: But it is now very little employed in practice, and has no place either in the London or Edinburgh Pharmacopœias; yet its ſenſible qualities give reaſon for believing that it may be a more active medicine than ſome articles which are retained; although credit is by no means to be paid to all that has been ſaid with regard to it.

AMMONIACUM GUMMI RESINA [*Lond. Ed.*]

Ammoniacum, the gum-reſin.

Ammoniacum is a concrete gummy reſinous juice, brought from the Eaſt Indies, uſually in large maſſes, compoſed of little lumps or tears, of a milky colour, but ſoon changing, upon being expoſed to the air, of a yellowiſh hue. We have no certain account of the plant which affords this juice; the ſeeds uſually found among the tears reſemble thoſe of the umbelliferous claſs. It has, however, been alledged, and not without ſome degree of probability, that it is an exudation from a ſpecies of the ferula, another ſpecies of which produces the aſſafœtida. The plant producing it is ſaid to grow in Nubia, Abyſſinia, and the interior parts of Egypt. Such tears as are large, dry, free from little ſtones, ſeeds, or other impurities, ſhould be picked out and preferred for internal uſe; the coarſer kind is purified by ſolution, colature, and inſpiſſation; unleſs this be artfully managed, the gum will loſe a conſiderable portion of its more volatile parts. There is often vended in the ſhops, under the name of ſtrained gum ammoniacum, a compoſition of ingredients much inferior in virtue.

Ammoniacum has a nauſeous ſweet taſte, followed by a bitter one; and a peculiar ſmell, ſomewhat like that of galbanum, but more grateful: it ſoftens in the mouth and grows of a white colour upon being chewed. Thrown upon live coals, it burns away in flame: it is in ſome degree ſoluble in water and in vinegar, with which it aſſumes the appearance of milk; but the reſinous part, amounting to about one-half, ſubſides on ſtanding.

Ammoniacum is an uſeful deobſtruent; and it is frequently preſcribed for opening obſtructions of the abdominal viſcera, and in hyſterical diſorders occaſioned by a deficiency of the menſtrual evacuations. It is likewiſe ſuppoſed to act upon the pulmonary veſſels; and to prove of conſiderable ſervice in ſome kinds of aſthmas, where the lungs are oppreſſed by viſcid phlegm: with this intention, a ſolution of gum ammoniacum in vinegar of ſquills, tho' not a little unpleaſant, proves a medicine of great efficacy. In long and obſtinate colics proceeding from viſcid matter lodged in the inteſtines, this gummy reſin has produced happy effects, after purges and the common carminatives had been uſed in vain. Ammoniacum is moſt commodiouſly taken in the form of pills: about a ſcruple may be given every night, or oftener. Externally, it is ſuppoſed to ſoften and ripen hard tumours: a ſolution of it in vinegar ſtands recommended for reſolving even ſcirrhous ſwellings. A plaſter made of it and ſquill-vinegar, is recommended in white ſwellings. A dilute mixture of it is likewiſe rubbed on the parts, which are alſo fumigated with the ſmoke of juniper berries.

In the ſhops a ſolution of it in pennyroyal water, is prepared, called, from its milky colour, *lac ammoniaci* [*Lond.*] It is an ingredient

dient alſo in the *pill. ſcillit.* [*Ed.*]

AMYGDALA AMARA, DULCIS [*Lond. Ed.*] *Nucleus.*

Amygdalus communis Lin. Var. α β.

Bitter and ſweet almond. The kernel.

The almond is a flattiſh kernel, of a white colour, covered with a thin browniſh ſkin; of a ſoft ſweet taſte, or a diſagreeable bitter one. The ſkins of both ſorts are unpleaſant, and covered with an acrid powdery ſubſtance: they are very apt to become rancid on keeping, and to be preyed on by a kind of inſect, which eats out the internal part, leaving the almond to appearance entire. To theſe circumſtances regard ought to be had in the choice of them.

The fruit which affords theſe kernels, is the produce of a tree reſembling the peach. The eye diſtinguiſhes no difference between the trees which produce the ſweet and bitter, or between the kernels themſelves; it is ſaid that the ſame tree has, by a difference in culture, afforded both.

Both ſorts of almonds yield, on expreſſion, a large quantity of oil, which has no ſmell or any particular taſte: this oil ſeparates likewiſe upon boiling the almonds in water, and is gradually collected on the ſurface: but on triturating the almonds with water, the oil and water unite together, by the mediation of the other matter of the kernel, and form an unctuous milky liquor.

Sweet almonds are of greater uſe in food than as medicines, but they are reckoned to afford little nouriſhment; and when eaten in ſubſtance, are not eaſy of digeſtion, unleſs thoroughly comminuted. They are ſuppoſed, on account of their ſoft unctuous quality, to obtund acrimonious juices in the primæ viæ: peeled ſweet almonds, eaten ſix or eight at a time, ſometimes give preſent relief in the heartburn.

Bitter almonds have been found poiſonous to dogs and ſundry other animals; and a water diſtilled from them, when made of a certain degree of ſtrength, has the ſame effects. Nevertheleſs, when eaten, they appear innocent to men, and have been not unfrequently uſed as medicines. Boerhaave recommends them, in ſubſtance, as diuretics which heat but moderately, and which may, therefore be ventured upon in acute diſeaſes.

The oils obtained by expreſſion from both ſorts of almonds are in their ſenſible qualities the ſame. The general virtues of theſe oils are, to blunt acrimonious humours, and to ſoften and relax the ſolids: hence their uſe internally, in tickling coughs, heat of urine, pains and inflammations: and externally, in tenſion and rigidity of particular parts.

The milky ſolutions of almonds in watery liquors, commonly called emulſions, contain the oil of the ſubject, and participate in ſome degree of its emolient virtue; but have this advantage above the pure oil, that they may be given in acute or inflammatory diſorders, without danger of the ill effects which the oil might ſometimes produce; ſince emulſions do not turn rancid or acrimonious by heat, as all the oils of this kind in a little time do. Several unctuous and reſinous ſubſtances, of themſelves not miſcible with water, may by trituration with almonds be eaſily mixed with it into the form of an emulſion; and are thus excellently fitted for medicinal uſe. In thus form, camphor and the reſinous purgatives may be commodiouſly taken. The only officinal preparations of almonds are, the expreſſed oil and emulſion. The common emulſion, or the lac amygdalæ, as it is now called by the London college, is prepared from the ſweet almond alone; but in the emulſion of the Edinburgh college, a ſmall

small proportion of bitter almonds is added, which has a much better effect in improving its taste than the sugar added by the London college. An emulsion formed entirely of bitter almonds, taken to the quantity of a pint or two daily, is said to have been given in obstinate intermittents with success.

ANCHUSA [*Ed.*] *Radix.*
Anchusa tinctoria Lin.
Alkanet root.

Alkanet is a rough hairy plant, much resembling the vipers buglofs: its chief difference from the common buglosses consists in the colour of its roots: the cortical part of which is of a dusky red, and imparts an elegant deep red to oils, wax, and all unctuous substances, but not to watery liquors. This plant is a native of the warmer parts of Europe: it is sometimes cultivated in our gardens; but the greatest quantities are raised in Germany or France, particularly about Montpelier, from whence the dried roots are usually imported to us. The alkanet root produced in England is much inferior in colour to that brought from abroad; the English being only lightly reddish, the others of a deep purplish red: and it has been suspected, but without sufficient foundation, that the foreign roots owe part of their colour to art.

Alkanet root has little or no smell: when recent, it has a bitterish astringent taste; but when dried, scarcely any. As to its virtues, the present practice expects not any from it. Its chief use is for colouring oils, ointments, and plasters. As the colour is confined to the cortical part, the small roots are best, having proportionally more bark than the large.

ANETHUM [*Lond. Ed.*] *Semen.*
Anethum graveolens Lin.
Dill, the seed.

Dill is an umbelliferous plant, cultivated in gardens, as well for culinary as medical use. The seeds are of a pale yellowish colour, in shape nearly oval, convex on one side, flat on the other. Their taste is moderately warm and pungent; their smell aromatic, but not of the most agreeable kind. These seeds are recommended as a carminative in flatulent cholics. The most efficacious preparations of them are, the distilled oil, and a tincture or extract made with rectified spirit. A simple distilled water prepared from these seeds has a place both in the London and Edinburgh Pharmacopœias.

ANGELICA [*Lond. Ed.*] *Radix, caulis, folium, semen.*
Angelica archangelica Lin.
Angelica, the root, stalk, leaf, and seed.

Garden angelica is a large umbelliferous plant, growing spontaneously in the northern climates: for the use of the shops, it is cultivated in gardens in the different parts of Europe. Bohemia and Spain are said to produce the best. Angelica roots are apt to grow mouldy, and to be preyed upon by insects, unless thoroughly dried, kept in a dry place, and frequently aired. We apprehend, that the roots which are subject to this inconvenience might be preserved, by dipping them in boiling spirit, or exposing them to its steam, after they are dried.

All the parts of angelica, especially the roots, have a fragrant aromatic smell; and a pleasant bitterish warm taste, glowing upon the lips and palate for a long time after they have been chewed. The flavour of the seeds and leaves is very perishable; particularly that of the latter, which

which, on being barely dried, lose the greatest part of their taste and smell: the roots are more tenacious of their flavour, though even these lose part of it with keeping. The fresh root, wounded early in the spring, yields an odorous, yellow juice; which, slowly exsiccated, proves an elegant gummy resin, very rich in the virtues of the angelica. On drying the root, this juice concretes into distinct moleculæ, which on cutting it longitudinally, appear distributed in little veins; in this state, they are extracted by pure spirit, but not by watery liquors.

Angelica is one of the most elegant aromatics of European growth, though little regarded in the present practice. The root, which is the most efficacious part, is used in the aromatic tincture. The stalks make an agreeable sweetmeat.

Besides the angelica archangelica, or garden-angelica, as it is commonly called, the Edinburgh college still also give a place to the root of the angelica sylvestris, or wild angelica. But it seems to differ only from the former in being much weaker, and might with propriety be rejected.

ANISUM [*Lond. Ed.*] *Semen.*
Pimpinella anisum Lin.
Anise, the seed.

Anise is an annual umbelliferous plant, growing naturally in Crete, Syria, and other places of the east. It is cultivated in some parts of France, Germany, and Spain, and may be raised also in England: the seeds brought from Spain, which are smaller than the others, are preferred.

Aniseeds have an aromatic smell, and a pleasant warm taste, accompanied with a degree of sweetness. Water extracts very little of their flavour; rectified spirit the whole.

The principal use of these seeds is in flatulent disorders, and in the gripes to which young children are subject. Frederick Hoffman strongly recommends them in weakness of the stomach, diarrhœas, and for strengthening the tone of the viscera in general; and thinks they well deserve the appellation given them by Helmont, *intestinorum solamem.*

There were formerly several officinal preparations of these seeds, but the only one now retained is an essential oil.

ANTIMONIUM [*Lond. Ed.*]
Stibium sive antimonium sulphuratum.
Antimony.

Antimony is a ponderous brittle mineral composed of long shining streaks like needles, mingled with a dark lead-coloured substance; of no manifest taste or smell. There are several mines of it in Germany, Hungary, and France: and some likewise in England. The English seems to be of all these the least proper for medicinal use, as frequently containing a portion of lead. The substances found mixed with the foreign sorts are generally of the unfusibly stony kind, from which the antimony is melted out in vessels, whose bottom is perforated with small holes, and received in conical moulds: in these, the lighter and more drossy matter arises to the surface; whilst the more pure and ponderous subsides to the bottom: hence the upper broad part of the loaves is considerably less pure than the lower.

The goodness of antimony is judged of from its weight; from the loaves not being spongy or bleby; from the largeness of the striæ; and from the antimony totally evaporating in a strong fire.

Antimony was employed by the ancients in collyria against inflammations of the eyes; and for staining

ing the eye-brows black. Its internal use does not seem to have been established till towards the end of the fifteenth century; and even then many practitioners thought it poisonous. But experience has now fully evinced, that pure antimony, in its crude state, has no noxious quality, being often used, particularly in chronic eruptions; that some of the preparations of it are medicines of great efficacy; and that though many of them are most violently emetic and cathartic, yet even these, by a slight alteration or addition, lose their virulence, and become mild in their operation.

This mineral appears from chemical experiments to consist of a metal, united with common sulphur, and separable in its metallic form by the same means by which other metallic bodies are extracted from their ores.

The pure metal operates, in a very minute dose, with extreme vehemence, as a purgative and emetic: when combined with sulphur, as in the crude mineral, its power is restrained: divested of the inflammable principle which it has in common with all perfectly metallic bodies, it becomes an indolent calx.

Antimony is at present the basis of many officinal preparations, afterwards to be treated. But besides those still retained, many others have been formerly in use, and are still employed by different practitioners. We shall here therefore subjoin a table drawn up by Dr Black, exhibiting a distinct view of the whole that were formerly in use. It may be proper, however, to observe, that the names used in this table refer not to the present edition of the London Pharmacopœia, but to that of 1746.

Dr Black's TABLE of the PREPARATIONS of ANTIMONY.

The Preparations of Antimony are obtained either from the crude antimony, or from the pure metallic part of it called regulus.

From CRUDE ANTIMONY.

I. By simple pulverisation.
- Antimonium præparatum, Ed. et Lond.

II. By the action of heat and air.
- Flores antimonii, sine addito.
- Vitrum antimonii. Ed. et Lond.
- Vitrum antimonii ceratum. Ed.

III. By the action of fixed alkalis.

1. Joined with it by fusion. HEPARS of antimony.
   - Hepar antim. mitissimus, vulgo regulus antim. medicinalis.
   - Hepar for the Kermes mineral of Geoffroy.
   - Hepar for the tinctura antimonii. Lond.
2. Acting upon it in the form of watery solution.
   - Kermes mineralis.
   - Sulphur antim. præcipitatum. Ed. et Lond.
   - Vulgo sulphur auratum antimonii.

IV. By melting or deflagrating it with nitre, which produces either *croci* or *calces* of antim.
- Crocus antim. mitissimus, vulgo Regulus antim. medicinalis.
- Crocus antimonii mitior.
- Crocus antimonii. Lond.
- Crocus antimonii, vulgo crocus metallorum. Ed.
- Crocus antimonii lotus. Lond.
- Antimon. emeticum mitius. Boerh.
- Calx antimonii nitrata. Ed. Vulgo James's powder.
- Calx antimonii. Lond. Vulgo antim. diaphoreticum.

V. By the action of acids.
- Antimon. vitriolatum Klaunig.
- Antimon. catharticum. Wilson.
- Causticum antimoniale, vulgo Butyrum Antim. Ed.
- Causticum antimoniale. Lond.
- Mercurius vitæ, sive pulvis Algarotti.
- Bezoardicum minerale.
- Floris antim. cum sale ammoniaco.
- Tartarus antimonialis, vulgo emeticus. Ed. et.
- Tartarus emeticus. Lond.
- Vinum antimoniale. Ed. et Lond.
- Vinum e tartaro antimoniali. Ed.

From the Regulus.

This metal separated from the sulphur by different processes, is called *Regulus antimonii simplex*, *Regulus antimonii martialis*, *Regulus jovialis*, &c. From it were prepared,

I. By the action of heat and air,
Flores argentei, sive nix antim.

II. By the action of nitre,
Cerussa antimonii.
Stomachicum Poterii.
Antihecticum Poterii.
Cardiacum Poterii.

Preparations which have their name from antimony, but scarcely contain any of its metallic part,
Cinnabaris antimonii. Lond.
Tinctura antimonii. Lond.

In the various preparations of antimony, the reguline part is either combined with an acid, or in a condition to be acted upon by acid in the stomach; and the general effects of antimonials are, diaphoresis, nausea, full vomiting and purging, which perhaps may be best obtained by the forms of prepared antimony and emetic tartar. Some allege that antimonials are of most use in fevers when they do not produce any sensible evacuation, as is said to be the case sometimes with James's powder. Some therefore prefer it in typhus, and emetic tartar in synochus, in which there is the appearance at first of more activity in the system, and more apparent cause for evacuation.

APIUM [*Gen.*] *Rad. fol. semen. Apium graveolens Lin.*

Smallage; the roots, leaves, and seeds.

This plant is larger than the garden parsley, of a darker green colour, and of a stronger and more unpleasant flavour. The roots are in the number of the five called opening roots, and have been sometimes prescribed as an ingredient in aperient apozems and diet-drinks: but are at present disregarded. The seeds of the plant are moderately aromatic, and were formerly used as carminatives; with which intention they are, doubtless, capable of doing service, though the other warm seeds with which the shops are furnished render these unnecessary.

ARABICUM GUMMI, Vide Gummi Arabicum.

ARGENTUM [*Lond.*]

Silver.

Silver is intitled to a place in the materia medica, only as being the basis of different preparations; and of these, although several were formerly in use, yet only one now retains a place either in the London or Edinburgh pharmacopœias.

Abundance of virtues have indeed been attributed to crude silver by the Arabians, and by some also of later times, but on very little foundation. This metal, taken in its crude state, has no effect in the body: combined with a small quantity of the nitrous acid, it proves a powerful, though not always a safe, hydragogue; with a larger, a strong caustic. The nitrous acid is the only one that perfectly dissolves this metal: on adding to this solution a minute portion of marine acid, or substances containing it, the liquor turns milky, and the silver falls to the bottom in form of a white calx: hence we are furnished with a method of discovering marine salt in waters.

ARISTOLOCHIA [*Ed.*] *Rod.*

Birthwort: the root.

Three roots of this name were formerly directed for medicinal use, and have still a place in some pharmacopœias.

(1.) Aristolochia longa *Lin.*
Long Birthwort.

This is a tuberous root, sometimes about the size of the finger, sometimes as thick as a man's arm, and a foot in length: it is nearly of an equal thickness all over, or a little thicker in the middle than at the ends: the outside is of a brownish colour; the inside yellowish.

(2) ARISTOLOCHIA ROTUNDA *Lin.*
Round birthwort.

This has scarce any other visible difference from the foregoing than its roundish shape.

(3) ARISTOLOCHIA TENUIS.
Aristolochia clematis Lin.
Slender birthwort.

This is a long and slender root, rarely exceeding the thickness of a goose-quill.

These roots are the produce of Spain, Italy, and the southern parts of France. Their smell is somewhat aromatic; their taste warm and bitterish. Authors in general represent them as extremely hot and pungent; some say they are the hottest of all the aromatic plants; but as usually met with in the shops, they have no great pungency. The long and round sorts, on being first chewed, scarcely discover any taste, but in a little time prove nauseously bitterish; the long somewhat the least so. The other sort instantly fills the mouth with an aromatic bitterness, which is not ungrateful. Their medical virtues are, to heat, stimulate, and promote the fluid secretions in general; but they are principally celebrated in suppressions of female evacuations. The dose in substance is from a scruple to two drams. The long sort is recommended externally for cleansing and drying wounds and ulcers in cutaneous diseases.—None of them, however, are now in so much esteem as formerly: and while all of them are banished from the pharmacopœia of the London college, the *aristolochia tenuis*, is alone retained in that of Edinburgh.

ARNICA [*Lond. Ed.*] *Herba, flos, radix.*
Arnica montana Lin.
German leopard's bane; the herb, flowers, and roots.

This article had formerly a place in our pharmacopœias, under the title of *Doronicum Germanicum*. Then, however, it was little known or used; and being justly considered as one of the deleterious vegetables, it was rejected: but it has been again introduced into the list both of the London and Edinburgh colleges, on the authority of fresh observations, particularly of those of Dr Collins of Vienna, who has lately published a Dissertation on the Medical Virtues of the Arnica.

This plant grows in different parts of Europe, particularly in Germany. It has an acrid bitter taste, and when bruised, emits a pungent odour, which excites sneezing. On this account, the country people in some parts of Germany use it in snuff, and smoke it like tobacco. It was formerly represented as a remedy of great efficacy against effusions and suffusions of blood, from falls, bruises, or the like; and it was then also mentioned as a remedy in jaundice, gout, nephritis, &c. but in these affections it is now very little, if at all, employed.

Of late it has been principally recommended in paralytic affections, and in cases where a loss or diminution of sense arises from an affection of the nerves, as in instances of amaurosis. In these, it has chiefly been employed under the form of infusion. From a dram to half an ounce of the flowers has been directed to be infused in a pint of boiling water, and taken in different doses in the course of the day: sometimes

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it produces vomiting, ſometimes ſweating, ſometimes diureſis; but frequently its uſe is attended with no ſenſible operation, except that in ſome caſes of paralyſis, the cure is ſaid to be preceeded by a peculiar prickling, and by ſhooting pains in the affected parts.

Beſides being employed in paralytic affections, it has alſo been of late recommended as a very powerful antiſpaſmodic; and been ſucceſsfully employed in fevers, particularly thoſe of the intermittent kind, and likewiſe in caſes of gangrene. In theſe diſeaſes it has proved as efficacious as the Peruvian bark, when employed under the form of a pretty ſtrong decoction, taken in ſmall doſes frequently repeated, or under the form of an electuary with honey.

Theſe alleged virtues of the arnica have not been confirmed, as far as we know, by any trials made in Britain; and we are of opinion, that its real influence ſtill remains to be determined by future obſervations. It is, however, one of thoſe active ſubſtances which may be expected to be uſeful.

ARSENICUM.

Arſenic.

Arſenic is contained, in greater or leſs quantity, in moſt kinds of ores, particularly in thoſe of tin and biſmuth, in the white pyrites, and in the mineral called *cobalt*. Greateſt part of the arſenic brought to us is extracted from this laſt named mineral, by a kind of ſublimation; the arſenic ariſes at firſt in the form of greyiſh meal; which, more carefully reſublimed, concretes into tranſparent maſſes, the *white* arſenic of the ſhops.

Arſenic ſublimed with one tenth its weight of ſulphur, unites therewith into a bright yellow maſs, in ſome degree tranſparent; the common *yellow* arſenic. On doubling the quantity of ſulphur, the compound proves more opaque and compact, is of a deep red colour, like cinnabar; but with this difference, that it loſes its beauty upon being reduced into powder, while cinnabar is improved by this means: this is the common *red* arſenic. By varying the proportions of arſenic and ſulphur, ſublimates may be obtained of a great variety of ſhades of yellow and red.

Natural mixtures of arſenic and ſulphur, reſembling the foregoing preparations, are not unfrequently met with in the earth. The foſſil red arſenic is the *ſandaracha* of the Greeks, the *realgar* and *reſigal* of the Arabians. Both the red and yellow, when of a ſmooth uniform texture, are named *zarnichs*; and when compoſed of ſmall ſcales or leaves, *auripigmenta* or *orpiments*; the laſt are the only ſubſtances to which the Greeks gave the name αρσενικον. That the zarnichs and orpiments really contain arſenic (contrary to the opinion of ſome late writers) is evident from experiments, by which a perfect arſenic, and in conſiderable quantity, is obtainable from them. The compilers of a former edition of the Edinburgh Diſpenſatory therefore very juſtly gave *ſandaracha Græcorum* as a ſynonymon to *red arſenic*; and *auripigmentum* to the yellow.

The pure or white arſenic has a penetrating corroſive taſte; and taken into the body to the extent even of only a few grains, proves a moſt violent poiſon. Beſides the effects which it has in common with other corroſives, it remarkably inflames the coats of the ſtomach, occaſions a ſwelling and ſphacelation of the whole body, and a ſudden putrefaction after death, particularly, as is ſaid, in the genitals of men. Where the quantity is ſo very ſmall as not

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to prove fatal, tremors, palſies, and lingring hectics ſucceed. The remedies recommended for counteracting the effects of this poiſon are, milk and oily liquors immediately and liberally drank.

Some authors recommend acids, particularly vinegar, as antidotes againſt this poiſon. Others recommend a watery ſolution of calcareous or alkaline hepar ſulphuris, which is found to combine with arſenic, and deſtroys moſt of its properties. A little iron in the ſolution is ſaid to improve it. The dry hepar may alſo be made into pills and warm water drank after taking them.

Notwithſtanding, however, the very violent effects of arſenic, it has been employed in the cure of diſeaſes, both externally and internally. Externally, white arſenic has been chiefly employed in caſes of cancer; and its good effects were ſuppoſed to depend on its acting as a peculiar corroſive. It is imagined that arſenic is the baſis of the remedy long celebrated in cancer, that is kept a ſecret by the Plunket family in Ireland. According to the beſt conjectures, their application conſiſts of the powder of ſome vegetables, particularly the ranunculus flammeus and cotula fœtida, with a conſiderable proportion of arſenic and flower of ſulphur intimately mixed together. This powder, made into a paſte with the white of an egg, is applied to the cancerous part which is intended to be corroded, and being covered with a piece of thin bladder, ſmeared alſo with the white of an egg; the paſte is ſuffered to lie on from twenty-four to forty-eight hours; and afterwards the eſchar is to be treated with ſoftening digeſtives, as in other caſes. This application, whether it be preciſely the ſame with Plunket's remedy or not, and likewiſe arſenic in mere ſimple form, have in ſome inſtances been productive of good effects. It is indeed a powerful eſcharotic, occaſioning acute pains; but it has the peculiar excellence of not extending its operation laterally. If in ſome caſes it has been beneficial, we muſt however allow that in others it does harm. While it has occaſioned very conſiderable pain, it has given the parts no diſpoſition to heal, the progreſs of the ulceration being even more rapid than before.

White arſenic has alſo been recommended a sa remedy for cancer when taken internally. With this intention, ſix grains and an half, of arſenic of a clear white ſhining appearance, and in ſmall cryſtals, is directed to be diſſolved in four pints of diſtilled water; and of this ſolution the patient is to take a table ſpoonful, with an equal quantity of milk and a little ſyrup of white poppies, every morning faſting, faſting nothing for an hour after it. After this has been continued for about eight days, the quantity is to be encreaſed, and the doſes more frequently repeated, till the ſolution be taken by an adult to the extent of ſix table ſpoonfuls in the courſe of a day. Mr Le Febure, who is, we believe, the introducer of this practice, affirms that he has uſed it in more than two hundred inſtances without any bad effect, and with evident proofs of its efficacy. But when employed by others, it has by no means been found equally efficacious.

Arſenic, in ſubſtance, to the extent of an eight of a grain for a doſe, combined with a little of the flowers of ſulphur, has been ſaid to be employed internally in ſome very obſtinate caſes of cutaneous diſeaſes, and with the beſt effects; but of this we have no experience.

Of all the diſeaſes in which white arſenic has been uſed internally, there

there is no one in which it has been so frequently and so successfully employed as in the cure of intermittent fevers. It has been long used in Lincolnshire, and other fenny countries, under the name of the *arsenic drop*, prepared in different ways: And it is probable, that an article, which has had a very extensive sale, under the title of the *tasteless-ague drop*, is nothing else but a solution of arsenic. Whether this be the case or not, we have now the most satisfactory information concerning this article, in the Medical Reports of the effects of Arsenic in the cure of Agues, Remitting Fevers, and Periodic Headachs, by Dr Fowler of Stafford. He directs, sixty-four grains of arsenic, reduced to a very fine powder, and mixed with as much fixed vegetable alkaline salt, to be added to half a pound of distilled water, in a florence flask; that it should then be placed in a sand heat, and gently boiled till the arsenic be completely dissolved; when the solution is cold, half an ounce of compound spirit of lavender is to be added to it, and as much distilled water as to make the whole solution amount to a pound. This solution is taken in doses, regulated according to the age, strength, and other circumstances of the patient, from two to twelve drops, once, twice, or oftener in the course of the day. And in the diseases above mentioned, particularly in intermittents, it has been found to be a safe and very efficacious remedy, both by Dr Fowler and other practitioners: but in some instances, even when given in very small doses, we have found it excite violent vomiting. But besides this, it has also been alleged, that persons cured of intermittents by arsenic, are very liable to become phthisical.

If arsenic be ever extensively employed internally, it will probably be most certain and most safe in its operation when brought to the state of a salt readily soluble in water. Mr Morveau tells us, that it may be brought to the state of a true neutral salt by the following process. Mix well together equal quantities of nitre and of pure white arsenic; put them into a retort, and distill at first with a gentle heat, but afterwards with so strong a heat as to redden the bottom of the retort. By this means the nitrous acid, united to the phlogiston of the arsenic, will arise into the receiver, and the alkaline basis of the nitre will unite with the acid of the arsenic, and will be found in the bottom of the retort in the form of a neutral salt, from which crystals of a prismatic figure, may be obtained by solution, and subsequent crystallisation.

We have been informed, that a very pure sal arsenici, readily soluble in water, has been prepared by Mr Milner, professor of chemistry at Cambridge; and that it has been employed with great success by several practitioners in that neighbourhood: but we are unacquainted with his process. Upon the whole, there is reason to believe that this active article may be employed with safety and advantage: and although it does not now stand in the list either of the London or Edinburgh Colleges, yet it seems to be better intitled to a place than many articles which have been retained.

The red and yellow arsenics, both native and factitious, have little taste, and are much less virulent in their effects than the foregoing. Sulphur, which restrains the power of mercury and antimony, remarkably abates the virulence of this poisonous mineral also. Such of these substances as participate more large-

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ly of sulphur, seem to be almost innocent: the factitious red arsenic, and the native orpiments, have been given to dogs in considerable quantity, without their being productive of any apparent bad consequences.

ARTEMISIA [*Ed.*] *Folia.*
Artemisia vulgaris Lin.
Mugwort; the leaves.

This plant grows plentifully in fields, hedges, and waste places, throughout England; and flowers in June. In appearance it somewhat resembles the common wormwood: the difference most obvious to the eye is in the flowers, those of wormwood hanging downwards, while the flowers of mugwort stand erect.

The leaves of this plant have a light aromatic smell, and an herbaceous bitterish taste. They were formerly celebrated as uterine and antihysteric: an infusion of them is sometimes drank, either alone or in conjunction with other substances, in suppression of the menstrual evacuations. This medicine is certainly a very mild one, and considerably less hot than most others to which these virtues are attributed: in some parts of this kingdom, mugwort is in common use as a pot-herb. It is now, however, very little employed in medicine; and it is probably with propriety that the London College have rejected it from their pharmacopœia.

ARTHANITA, *Radix.*
Cyclamen Europæum Lin.
Sowbread; the root.

This plant is met with in the gardens of the curious. The root has, when fresh, an extremely acrimonious burning taste, which it almost entirely loses on being dried. It is recommended as an errhine; in cataplasms for scirrhous and scrophulous tumours; and internally as a cathartic, detergent, and aperient: it operates very slowly, but with great virulence, inflaming the fauces and intestines.

ARUM [*Lond. Ed.*] *Radix.*
Arum maculatum Lin.
Wake-robin; the root.

This plant grows wild under hedges, and by the sides of banks, in most parts of England. It sends forth in March three or four triangular leaves, which are followed by a naked stalk, bearing a purplish pistil inclosed in a long sheath: this is succeeded in July by a bunch of reddish berries. In some plants, the leaves are spotted with black, in others with white spots, and in others not spotted at all: the black spotted sort is supposed to be the most efficacious.

All the parts of arum, particularly the root, have an extremely pungent, acrimonious taste; if the root be but lightly chewed, it continues to burn and vellicate the tongue for some hours, occasioning at the same time a considerable thirst; these symptoms are alleviated by butter-milk or oily liquors. Dried and kept for sometime it loses much of its acrimony, and becomes at length an almost insipid farinaceous substance.

The root is a powerful stimulant and attenuant. It is reckoned a medicine of great efficacy in some cachetic and chlorotic cases, in weakness of the stomach occasioned by a load of viscid phlegm. Great benefit has been obtained from it in rheumatic pains, particularly those of the fixt kind, and which were deep seated. In these cases it may be given from ten grains to a scruple of the fresh root twice or thrice a-day, made into a bolus or emulsion with

with unctuous and mucilaginous substances, which cover its pungency, and prevent its making any painful impression on the tongue. It generally excites a slight tingling sensation through the whole habit, and, when the patient is kept warm in bed, produces a copious sweat.

The arum was formerly an ingredient in an officinal preparation, called the compound powder of arum; but in that form its virtues are very precarious. Some recommend a tincture of it drawn with wine; but neither wine, water, nor spirits, extract it virtues.

ASAFŒTIDA [*Lond. Ed.*]
Gummi resina.
Ferula asafœtida Lin.
Asafœtida; the gum-resin.

This is the concrete juice of a large umbelliferous plant, a native of Persia. Till very lately it was not to be met with in our hothouses; but by the industry of the late Dr Hope, it is now growing in the botanical garden at Edinburgh, and in some other places: and it is found, that it not only bears the vicissitudes of our climate, even in the open air, but that the plant is here strongly impregnated with its peculiar juice.

This juice exudes liquid and white like milk from wounds made in the root of the plant: on being exposed to the air, it turns of a browniſh colour, and gradually acquires different degrees of consistency. It is brought to us in large irregular masses, composed of various little shining lumps or grains, which are partly of a whitish colour, partly reddish, and partly of a violet hue. Those masses are accounted the best which are clear, of a pale reddish colour, and variegated with a great number of elegant white tears.

This drug has a strong fetid smell, somewhat like that of garlic; and a bitter, acrid, biting taste. It loses some of its smell and strength by keeping, a circumstance to be particularly regarded in its exhibition. It consists of about one third part of pure resin and two-thirds of gummy matter; the former soluble in rectified spirit, the other in water. Proof-spirit dissolves almost the whole into a turbid liquor; the tincture in rectified spirit is transparent.

Asafœtida is the strongest of the fetid gums, and of frequent use in hysteric and different kinds of nervous complaints. It is likewise of considerable efficacy in flatulent colics; and for promoting all the fluid secretions in either sex. The antients attributed to this medicine many other virtues, which are at present not expected from it.

This gummy resin is an ingredient in the officinal gum-pills, fetid tincture, tincture of soot, and fetid volatile spirit.

ASARUM [*Lond. Ed.*] *Folium.*
Asarum Europæum Lin.
Asarabacca; the leaves.

Asarum is a very low plant, growing naturally in France, Italy, and other warm countries. It grows readily in our gardens; and altho' the dried roots have been generally brought from the Levant, those of our own growth do not seem to be weaker.

Both the roots and leaves have a nauseous, bitter, acrimonious, hot taste; their smell is strong, and not very disagreeable. Given in substance from half a dram to a dram, they evacuate powerfully both upwards

wards and downwards. It is said, that tinctures made in spirituous menstrua, possess both the emetic and cathartic virtues of the plant: that the extract obtained by inspissating these tinctures, acts only by vomiting, and with great mildness: that an infusion in water proves cathartic, rarely emetic: that aqueous decoctions made by long boiling, and the watery extract, have no purgative or emetic quality, but prove good diaphoretics, diuretics, and emmenagogues.

The principle use of this plant among us is as a sternutatory. The root of asarum is perhaps the strongest of all the vegetable errhines, white hellebore itself not excepted. Snuffed up the nose, in the quantity of a grain or two, it occasions a large evacuation of mucus, and raises a plentiful spitting. The leaves are considerably milder, and may be used to the quantity of three, four, or five grains. Geoffroy relates, that after snuffing up a dose of this errhine at night, he has frequently observed the discharge from the nose to continue for three days together; and that he has known a paralysis of the mouth and tongue cured by one dose. He recommends this medicine in stubborn disorders of the head, proceeding from viscid tenacious matter, in palsies, and in soporific distempers. The leaves are the principle ingredient in the *pulvis sternutatorius*, or *pulvis asari compositus*, as it is now termed, of the shops.

ASPARAGUS [*Ros.*] *Radix, turiones.*

Asparagus officinalis Lin.

Asparagus; the root and top.

This plant is cultivated in gardens for culinary use. The roots have a bitterish mucilaginous taste, inclining to sweetness, the fruit has much the same kind of taste; the young shoots are more agreeable than either. Asparagus promotes appetite, but affords little nourishment. It gives a strong smell to the urine in a little time after eating it, and for this reason chiefly it is supposed to be diuretic: it is likewise esteemed aperient and deobstruent; the root is one of the five called opening roots. Some suppose the shoots to be most efficacious; others the root; and others the bark of the root. Asparagus appears from experience to contribute very little either to the exciting of urine when suppressed, or increasing its discharge; and in cases where aperient medicines generally do service, this has little or no effect.

ATRIPLEX FŒTIDA [*Ed.*] *Herba.*

Chenopodium vulvaria Lin.

Stinking orach; the leaves.

This is a low plant, sprinkled all over with a kind of whitish clammy meal: it grows about dunghills, and other waste places. The leaves have a strong fetid smell, with which the hand by a slight touch, becomes so impregnated as not to be easily freed from it. Its smell has gained it the character of an excellent antihysteric; and this is the only use to which it is applied. Tournefort recommends a spirituous tincture, others a decoction in water, and others a conserve of the leaves, as of wonderful efficacy in uterine disorders; but in the present practice it is little employed.

AVENA [*Lond.*] *Semen.*

Avena sativa Lin.

The oat; its seed.

This grain is an article rather of food than of medicine. It is sufficiently nutritive and easy of digestion. The gruels made from it have likewise

likewise a kind of soft mucilaginous quality; by which they obtund acrimonious humours, and prove useful in inflammatory disorders, coughs, hoarseness, roughness, and exulcerations of the fauces. They are by no means an unpleasant, and at the same time a gently nutritive drink, in febrile diseases in general.

AURANTIUM HISPALENSE [*Lond. Ed.*] *Folium, flos, fructus, succus, et cortex exterior.*

Citrus aurantium Lin.

Sevile orange; the leaf, flower, juice of the fruit, and its outer rind.

The orange is a beautiful evergreen tree, or rather shrub: it is a native of the warmer climates, and does not easily bear the winters of Great Britain.

The flowers are highly odoriferous, and have been, for some time past, in great esteem as a perfume: their taste is somewhat warm, accompanied with a degree of bitterness. They yield their flavour by infusion in rectified spirit, and in distillation both to spirit and water: the bitter matter is dissolved by water, and, on evaporating the decoction, remains entire in the extract. An oil distilled from these flowers is brought from Italy under the name of *oleum* or *essentia Neroli*.

Orange flowers were at one time said to be an useful remedy in convulsive and epileptic cases; but experience has not confirmed the virtues attributed to them. The leaves of the orange have also been recommended for the same purpose, but have by no means answered the expectations entertained by some.

The outer yellow rind of the fruit is a grateful aromatic bitter; and proves an excellent stomachic and carminative, promoting appetite, warming the habit, and strengthening the tone of the viscera. Orange peel appears to be very considerably warmer than that of lemons, and to abound more with essential oil; to this circumstance therefore due regard ought to be had in the use of these medicines. The flavour of the first is likewise supposed to be less perishable than that of the other: hence the London college employ orange-peel in the spirituous bitter tincture which is designed for keeping; while in the bitter watery infusion, lemon-peel is preferred. A syrup and distilled water are for the same reason prepared from the rind of oranges in preference to that of lemons.

The outer rind of the orange is the basis of a conserve both in the Edinburgh and London pharmacopœias; and this is perhaps one of the most elegant and convenient forms for exhibiting it.

The juice of oranges is a grateful acid liquor, of considerable use in febrile or inflammatory distempers, for allaying heat, abating exorbitant commotions of the blood, quenching thirst, and promoting the salutary excretions: it is likewise of use in genuine scorbutus, or sea-scurvy.—Although the Seville, or *bitter-orange* as it is called, has alone a place in our pharmacopœias, yet the juice of the China, or sweet orange, is much more employed. It is milder, and less acid; and is employed in its most simple state with great advantage, both as a cooling medicine, and as an useful antiseptic in fevers of the worst kinds, and many other acute diseases.

AURANTIA CURASLAVENSIA.

Curassao oranges.

These are the small young fruit of the Seville orange dried. They are moderately warm bitterish aro-

matics, of a flavour sufficiently agreeable.

AURUM [*Brun.*]
Gold.

This metal was introduced into medicine by the Arabians, who esteemed it one of the greatest cordials and comforters of the nerves. From them Europe received it without any diminution of its character; in foreign pharmacopœias it is still retained, and even mixed with the ingredients from which simple waters are to be distilled. But no one, it is presumed, at this time, expects any singular virtues from it, since it certainly is not alterable in the human body. Mr Geoffroy, tho' unwilling to reject it from the cordial preparations, honestly acknowledges, that he has no other reason for retaining it, than complaisance to the Arabian schools. The chemists have endeavoured, by many elaborate processes, to extract what they call a sulphur or anima of gold: but no method is as yet known of separating the component parts of this metal; all the tinctures of it, and aurum potabile, which have hitherto appeared, are real solutions of it in aqua regia, diluted with spirit of wine or other liquors, and prove injurious to the body rather than beneficial. A place, however, is now given in some of the foreign pharmacopœias to the aurum fulminans; and it has of late been recommended as a remedy in some convulsive diseases, particularly in the chorea sancti viti.

BALSAMITA [*Gen.*] *Folia.*
Tanacetum balsamita Lin.
Costmary; the leaves.

This was formerly a very common garden plant, and of frequent use both for culinary and medicinal purposes: but it is at present very little regarded for either; though it should seem, from its sensible qualities, to be equal or superior, as a medicine, to some aromatic herbs which practice has retained. The leaves have a bitterish, warm, aromatic taste; and a very pleasant smell, approaching to that of mint or a mixture of mint and maudlin. Water elevates their flavour in distillation; and rectified spirit extracts it by infusion. It has been recommended in hysterical affections; and has been supposed to be very powerful in correcting the influence of opium. The leaves should be collected in the month of July or August.

BALSAMUM CANADENSE [*Lond. Ed.*]
Pinus balsamea Lin.
Canada balsam.

The Canada balsam is a transparent resinous juice, of a light amber colour, and pretty firm consistence, brought to this country from Canada in North America. It is a very pure turpentine, being the product of a species of fir. It has an agreeable smell, and a warm pungent taste. Hitherto it has been but little employed in medicine; but is thought capable of answering every purpose for which the next article is employed.

BALSAMUM COPAIVA [*Lond. Ed.*]
Copaifera balsamum Lin.
Balsam of Copaiva.

The tree which produces this balsam is a native of the Spanish West India islands, and of some parts of the continent of South America. It grows to a large size, and the balsamum Copaiva flows under the form of a resinous juice, from incisions made in the trunk.

The juice is clear and transparent,

rent, of a whitiſh or pale yellowiſh colour, an agreeable ſmell, and a bitteriſh pungent taſte. It is uſually about the conſiſtence of oil, or a little thicker: when long kept, it becomes nearly as thick as honey, retaining its clearneſs; but has not been obſerved to grow dry or ſolid, as moſt of the other reſinous juices do. We ſometimes meet with a thick ſort of balſam of Copaiva, which is not at all tranſparent, or much leſs ſo than the foregoing, and generally has a portion of turbid watery liquor at the bottom. This ſort is probably either adulterated by the mixture of other ſubſtances, or has been extracted by coction from the bark and branches of the tree: its ſmell and taſte are muchleſs pleaſant than thoſe of the genuine balſam.

Pure balſam of Copaiva diſſolves entirely in rectified ſpirit, eſpecially if the menſtruum be previouſly alkalized: the ſolution has a very fragrant ſmell. Diſtilled with water, it yields a large quantity of a limpid eſſential oil; and in a ſtrong heat, without addition, a blue oil.

The balſam of Copaiva is an uſeful corroborating detergent medicine, accompanied with a degree of irritation. It ſtrengthens the nervous ſyſtem, tends to looſen the belly, in large doſes proves purgative, promotes urine, and cleanſes and heals exulcerations in the urinary paſſages, which it is ſuppoſed to perform more effectually than any of the other balſams. Fuller obſerves, that it gives the urine an intenſely bitter taſte, but not a violet ſmell as the turpentines do.

This balſam has been principally celebrated in gleets and the fluor albus, and externally as a vulnenary. The author above mentioned, recommends it likewiſe in dyſenteries, in ſcorbutic cachexies, in diſeaſes of the breaſt and lungs, and in an acrimonious or putreſcent ſtate of the juices: he ſays, he has known very dangerous coughs, which manifeſtly threatened a conſumption, cured by the uſe of this balſam alone; and that, notwithſtanding its being hot and bitter, it has good effects even in hectic caſes. Moſt phyſicians ſeem now, however, to conſider balſams and reſins too ſtimulant in phthiſical affections.

The doſe of this medicine rarely exceeds twenty or thirty drops, though ſome authors direct ſixty or upwards. It may be conveniently taken in the form of an olæoſaccharum, or in that of an emulſion, into which it may be reduced, by triturating it with almonds, with a thick mucilage of gum-arabic, or with the yolk of eggs, till they are well incorporated, and then gradually adding a proper quantity of water.

BALSAMUM GILEADENSE [*Ed.*]

Amyris Gileadenſis Lin.

Balſam of Gilead.

This article, which has alſo had the name of Balſamum Judaicum, Syriacum, e Mecca, Opobalſamum, &c. is a reſinous juice, obtained from an ever-green tree, growing ſpontaneouſly, near Mecca, on the Aſiatic ſide of the Red Sea. The beſt ſort of it is a ſpontaneous exudation from the tree; and is held in ſo high eſteem by the Turks, who are in poſſeſſion of the country where it is produced, that it is rarely, if ever, to be met with genuine among us. From the high price ſet upon it, many adulterations are practiſed. The true opobalſamum, according to Alpinus, is at firſt turbid and white, of a very ſtrong pungent ſmell, like that of turpentine, but much ſweeter; and of a bitter, acrid, aſtringent taſte: upon being kept for ſome time, it becomes thin, limpid, of a greeniſh hue, then

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of a gold yellow, and at length of the colour of honey. According to Dr Alston, the sureſt mark of its being pure and unadulterated is its ſpreading quickly on the ſurface of water when dropt into it. He tells us, that if a ſingle drop be let fall into a large ſaucer full of water, it will immediately ſpread over its ſurface, and ſeem in a ſhort time to diſſolve or diſappear; but in about the ſpace of half an hour it becomes a tranſparent pellicle, covering the whole ſurface, and may be taken up with a pin. In this ſtate it has loſt both its fluidity and colour; it has become white and cohering, and has communicated its ſmell and taſte to the water. It is, however, he obſerves, rare to get it in a condition that bears this teſt.

This balſam is in high eſteem among the eaſtern nations, both as a medicine and as an odoriferous unguent and coſmetic. It has been recommended in a variety of complaints; but its great ſcarcity has prevented it from coming into uſe among us; and it is now in general believed that the Canada and Copaiva balſams will anſwer every purpoſe for which it can be employed.

BALSAMUM PERUVIANUM [*Lond. Ed.*]

Myroxylon peruiferum Lin.

Balſam of Peru.

The common Peruvian balſam is ſaid to be extracted by coction in water, from an odoriferous ſhrub growing in Peru and the warmer parts of America. This balſam, as brought to us, is nearly of the conſiſtence of thin honey, of a reddiſh brown colour, inclining to black, an agreeable aromatic ſmell, and a very hot biting taſte. Diſtilled with water, it yields a ſmall quantity of a fragrant eſſential oil of a reddiſh colour; and in a ſtrong fire, without addition, a yellowiſh red oil.

Balſam of Peru is a very warm aromatic medicine, conſiderably hotter and more acrid than Copaiva. Its principal effects are, to warm the habit, to ſtrengthen the nervous ſyſtem, and attenuate viſcid humours. Hence its uſe in ſome kinds of aſthmas, gonorrhœas, dyſenteries, ſuppreſſions of the uterine diſcharges, and other diſorders proceeding from a debility of the ſolids, or a ſluggiſhneſs and inactivity of the juices. It is alſo employed externally, for cleanſing and healing wounds and ulcers; and ſometimes againſt palſies and rheumatic pains.

This balſam does not unite with water, milk, expreſſed oils, animal fats, or wax: it may be mingled in the cold with this laſt, and likewiſe with the ſebaceous ſubſtance called expreſſed oil of mace, but if the mixture be afterwards liquefied by heat, the balſam ſeparates and falls to the bottom. It may be mixed with water into the form of an emulſion, in the ſame manner as the balſam of Copaiva. Alkaline lixivia diſſolve great part of it; and rectified ſpirit the whole.

It is an ingredient in ſeveral officinal compoſitions; in ſome of which, as we ſhall afterwards endeavour to ſhew, it has rather a bad than a good effect.

There is another ſort of balſam of Peru, of a *white* colour, and conſiderably more fragrant than the former. This is very rarely brought to us. It is ſaid to be the produce of the ſame plant which yields the common or *black* balſam; and to exude from inciſions made in the trunk; while the former is obtained by boiling. There is alſo a third kind, commonly called the *red* or dry. This is ſuppoſed to obtain a different ſtate from the white, merely in conſequence of the treatment to which it is ſubjected after it is got from the tree. It is almoſt as fra-

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grant as the balsam of Gilead, held in so high esteem among the eastern nations. It is very rarely in use in Britain, and almost never to be met with in our shops.

BALSAMUM RAKASIRI [*Brun.*]

We are less acquainted with the history of this balsam than any other. It is the product of an American tree unknown to us; and is supposed to be a spontaneous exudation. If the accounts given of it by several writers, particularly by Mr Fermin in his History of Surinam, are to be depended upon, it is one of the most powerful and useful of the balsams yet discovered. It is said to possess all the virtues of balsamum Copaiva, but in a much higher degree. It is represented as a most useful application, both in cases of recent wounds and old ulcers; and it is held forth as an infallible remedy, both for the gonorrhœa in men and fluor albus in women. These accounts, however, are solely founded on the representation of the Indians, who are alone in the habit of using it; for hitherto it has been very little employed in Europe, and is very rarely to be met with.

BALSAMUM TOLUTANUM [*Lond. Ed.*]

Toluifera balsamum.

Balsam of Tolu.

This flows from a tree growing in Tolu, in the Spanish West-Indies; from whence the balsam is brought to us in little gourd shells. It is of a yellowish brown colour, inclining to red; in consistence thick and tenaceous: by age it grows hard and brittle, without suffering any great loss of its more valuable parts. The smell of this balsam is extremely fragrant, somewhat resembling that of lemons; its taste warm and sweetish, with little of the pungency, and nothing of the nauseous relish, which accompany the other balsams. It has the same general virtues with the foregoing; but is much milder, and for some purposes, particularly as a corroborant in gleets and seminal weaknesses, is supposed to be more efficacious. It is an ingredient in the *syrupus tolutanus*, *tinctura tolutana*, and *syrupus balsamicus*.

BARDANA [*Lond. Ed.*] *Radix.*

Arctium lappa Lin.

Burdock; the root.

This is a common plant about way-sides, sufficiently known from its scaly heads, or burs, which stick to the clothes. The seeds have a bitterish subacrid taste: they are recommended as very efficacious diuretics, given either in the form of emulsion, or in powder, to the quantity of a dram. The roots taste sweetish, with a slight austerity and bitterishness: they are esteemed aperient, diuretic, and sudorific; and are said to act without irritation, so as to be safely used in acute disorders. Decoctions of them have of late been used in rheumatic, gouty, venereal, and other disorders; and are preferred sometimes to those of sarsaparilla.

BARILLA [*Lond.*] *Natrum impurum.*

Natrum antiquorum Lin.

Barilla, or impure fossil alkali.

Barilla is a saline substance in a very impure state, chiefly imported into Britain from the Mediterranean. Its great constituent is the fossil alkali; and it is under that form alone that it is now employed in medicine, either by itself, or combined with other articles. Its medical virtues will therefore more properly

perly be mentioned under the title of Natron præparatum of the London college, the ſal alkalinus fixus foſſilis of the Edinburgh college, the ſal ſoda of ſome of the beſt foreign pharmacopœias.

The barilla, or natron of the antients, has ſometimes been found native in the earth, particularly near Smyrna, and in different places of Aſia; it has alſo been found in ſome parts of Barbary, Hungary, and Ruſſia: but it is chiefly obtained by artificially ſeparating it from thoſe ſubſtances which contain it. Our barilla is chiefly imported from Spain, where it is obtained by the calcination of vegetables, particularly the kali, growing on the ſea ſhore. In Britain, much of it is obtained in a very impure ſtate, by the calcination of the different fuci, or ſea-weeds, growing on the rocks, and covered by the ſea water every tide. It is probable that all theſe different vegetables derive it entirely from the ſea-ſalt. Many attempts have been made to obtain it immediately from ſea-ſalt, but without ſucceſs. It is to be hoped, however, that a proceſs will be diſcovered for obtaining it in an eaſy manner, and at a cheaper rate, than it is at preſent imported or obtained at home.

BDELLIUM [*Succ.*]

Bdellium: gummi-reſina.

Bdellium is a gummy-reſinous concrete juice brought from Arabia and the Eaſt-Indies, in maſſes of different figures and magnitudes. It is of a dark reddiſh brown colour, and in appearance ſomewhat reſembles myrrh; it is ſemi-tranſparent, and as Geoffroy juſtly obſerves, looks like glue. It grows ſoft and tenaceous in the mouth, ſticks to the teeth, has a bitteriſh taſte, and not a diſagreeable ſmell. Bdellium is recommended as a ſudorific, diuretic, and uterine; and in external applications for maturating tumours, &c. In the preſent practice, it is ſcarcely uſed. And accordingly it has now no place either in the London or Edinburgh Pharmacopœias; but it is ſtill retained in ſeveral of the lateſt foreign ones, and enters ſome of their plaſters.

BECCABUNGA [*Lond.*] *Herba.*

Veronica beccabunga Lin.

Brooklime; the herb.

This is a low plant, common in little rivulets and ditches of ſtanding water. The leaves remain all the winter, but are in greateſt perfection in the ſpring. Their prevailing taſte is an herbaceous one, accompanied with a very light bitterneſs.

Beccabunga has been ſuppoſed to have a ſaponaceous detergent virtue, and to attenuate viſcid humours without pungency or irritation: hence it has been directed in the ſpecies of ſcurvy called hot, where the *cochlearia*, and other acrid antiſcorbutics, were ſuppoſed to be leſs proper. If any virtue is expected from beccabunga, it ſhould be uſed as food.

BELLADONNA [*Ed.*] *Folia.*

Atropa belladonna Lin.

Deadly nightſhade.

The deadly nightſhade is a native of Britain, growing in many different places, and in conſiderable abundance. It has long been conſidered, which indeed may be inferred from the name, as one of the moſt deleterious of the vegetable narcotic poiſons. It has, however, for a conſiderable number of years been employed in the practice of medicine,

cine, both externally and internally; and it has accordingly got a place in ſucceſſive editions of the Edinburgh pharmacopœia. It is an article of great activity, and under prudent management may be uſed with ſafety.

The belladonna taken internally, has been highly recommended in cancer by ſeveral writers, particularly by Dr Lambergen and Dr Munch, in treatiſes profeſſedly publiſhed with the intention of recommending it. Beſides a very remarkable narcotic power, this vegetable poſſeſſes conſiderable influence in promoting all the excretions, particularly ſweat, urine, and ſaliva. It has been employed under the form of infuſion, formed of the dried leaves, to the extent of a ſcruple in a conſiderable quantity of water, and taken in the courſe of a day. It is thought to be much injured by heat, and therefore ſome practitioners prefer the dry powder to the decoction or infuſion, and thus employed, the doſe is limited to a few grains.

Beſides cancer, ſcirrhus, and other obſtinate tumours, it has been employed with ſucceſs in ſome caſes of melancholia, mania, and epilepſia.

Externally, it has been applied to open cancers under the form of an infuſion of the dried leaves; and to occult ones, the recent leaves have been applied in ſubſtance. And there are well authenticated caſes on record of good effects being obtained from it in both theſe ways. While therefore a place is given to it in liſts of the materia medica, it ought alſo, we think, to be the baſis of officinal formulæ, under which it might be employed with the greateſt ſafety and advantage.

BENZOE [*Lond. Ed.*] *Reſina.*

Styrax benzoe Dryand. [*Lond.*]
Terminalia benzoin Lin. [*Ed.*]
Benzoine, the reſin.

Benzoine is a concrete reſinous juice. It is brought from the Eaſt-Indies only; in large maſſes compoſed of white and light brown pieces, or yellowiſh ſpecks, breaking very eaſily between the hands: ſuch as is whiteſt, and free from impurities, is moſt eſteemed.

In moſt of the new foreign pharmacopœias benzoin is ſaid to be obtained from the Croton benzoe of Linné: but when the laſt edition of the Edinburgh pharmacopœia was publiſhed, it was ſuppoſed to be the product of the Terminalia benzoin, a tree unknown to Linné, but deſcribed in the Supplement to his works, publiſhed by his ſon. But Dr Dryander of London has, in the Philoſophical Tranſactions, deſcribed the tree producing it, to which he gives the name of *ſtyrax benzoe*. It grows chiefly in the iſland of Sumatra.

This reſin has very little taſte, impreſſing only a light ſweetneſs on the tongue: its ſmell is extremely fragrant and agreeable, eſpecially when heated. Committed to the fire in proper veſſels, it yields a conſiderable quantity of a white ſaline concrete, called *flowers*, of an acidulous taſte and grateful odour, ſoluble in rectified ſpirit; and, by the aſſiſtance of heat, in water.—We ſhall have occaſion to treat of theſe afterwards.

The principal uſe of benzoine is in perfumes, and as a coſmetic: it is rarely met with inextemporaneous preſcription, and enters in ſubſtance only one officinal compoſition, the *balſanum traumaticum*, or tinctura benzoes compoſita, as it is now more

properly ſtiled by the London college. It ſeems to have no ill title to the virtues of ſtorax and balſam of Tolu, at leaſt in a ſubordinate degree. The flowers are recommended in diſorders of the breaſt; and with this intention they are made an ingredient in the *paregoric elixir*, or camphorated tincture of opium.

BERBERIS [*Suec.*] *Cortex, baccarum ſuccus.*

Berberis vulgaris Lin.

Barberry, the bark and the juice of the berries.

The barberry is a ſmall tree, or rather a large buſh, covered with an aſh-coloured bark, under which is contained another of a deep yellow: the berries are of an elegant red colour, and contain each two hard brown ſeeds. It grows wild on chalky hills in ſeveral parts of England; and is frequently planted in hedges and in gardens.

The outward bark of the branches, and the leaves, has an aſtringent acrid taſte; the inner yellow bark, a bitter one; this laſt is ſaid to be ſerviceable in the jaundice; and to be an uſeful purgative.

The berries, which to the taſte are gratefully acid, and moderately reſtringent, have been given with good ſucceſs in bilious fluxes, and diſeaſes proceeding from heat, acrimony, or thinneſs of the juices. Among the Egyptians, barberries are employed in fluxes and in malignant fevers, for abating heat, quenching thirſt, raiſing the ſtrength, and preventing putrefaction; the fruit is macerated for a day and night, in about twelve times its quantity of water, with the addition of a little fennel ſeed, or the like, to prevent offence to the ſtomach; the liquor ſtrained off, and ſweetened with ſugar, or ſyrup of citrons, is liberally given the patient to drink. Proſper Alpinus (from whoſe treatiſe *De medicina Egyptiorum* this account is extracted) informs us, that he took this medicine himſelf, with happy ſucceſs, in a peſtilential fever accompanied with an immoderate bilious diarrhœa.

The barberry, however, is now ſo little uſed for medical purpoſes in Britain, that it is rejected from the liſt both of the London and Edinburgh colleges.

BETA [*Gen.*] *Folium, radix.*

Beta vulgaris Lin.

The white and redbeet; the root and leaves.

Theſe plants are cultivated in gardens chiefly for culinary uſe. The eye diſtinguiſhes little other difference between them than that expreſſed in their titles. Decoctions of beets are gently laxative; hence they have been ranked among the emollient herbs; the plants remaining after the boiling are ſuppoſed to have rather a contrary effect. They afford little nouriſhment, and are ſaid by ſome to be prejudicial to the ſtomach. The juice expreſſed from the roots is a powerful errhine; but with this intention they are hardly employed in medicine. Of late, another ſpecies of beet, deſcribed by Dr Lettſom, under the title of *Beta hybrida*, or the root of ſcarcity, has been extolled, as affording a great quantity of alimentary matter on a ſmall ſpace of ground, both for the human ſpecies and domeſtic animals; but it has not been found to anſwer the doctor's deſcription.

BETONICA [*Brun.*] *Folia et flores.*

Betonica officinalis Lin.

Betony; the leaves and flowers.

Betony is a low plant, growing in

in woods and ſhady places, in ſeveral parts of England; the flowers come forth in June and July; they are of a purpliſh colour, and ſtand in ſpikes on the tops of the ſtalks. The leaves and flowers have an herbaceous, roughiſh, ſomewhat bitteriſh taſte, accompanied with a very weak aromatic flavour. This herb has long been a favourite among writers on the materia medica, who have not been wanting to attribute to it abundance of good qualities. Experience does not diſcover any other virtue in betony than that of a mild corroborant; as ſuch, an infuſion or light decoction of it may be drank as tea, or a ſaturated tincture in rectified ſpirit given in ſuitable doſes, in laxity and debility of the viſcera, and diſorders proceeding from thence. The powder of the leaves, ſnuffed up the noſe, provokes ſneezing; and hence betony is ſometimes made an ingredient in ſternutatory powders: this effect does not ſeem to be owing, as is generally ſuppoſed, to any peculiar ſtimulating quality in the herb, but to the rough hairs with which the leaves are covered. The roots of this plant differ greatly in quality from the other parts: their taſte is bitter and very nauſeous: taken in a ſmall doſe, they vomit and purge violently, and are ſuppoſed to have ſomewhat in common with the roots of hellebore. It is pretty ſingular, if true, that betony affects thoſe who gather any conſiderable quantity of it, with a diſorder reſembling drunkenneſs; as affirmed by Simon Paulli and Bartholinus.

From theſe ſenſible qualities and operative effects, although it has now no place in our pharmacopœias, it certainly deſerves attention.

BETULA [*Gen.*] *Cortex, ſuccus.*

Betula alba Lin.

The birch tree, the bark and ſap.

This tree grows wild in moſt woods: its bark conſiſts of a thick brittle ſubſtance of a browniſh red colour; and of ſeveral very thin, ſmooth, white, tranſparent membranes. Theſe laſt are highly inflammable, and abound with reſinous matter, though ſcarcely of any particular ſmell or taſte; the thick brittle part is leſs reſinous, and in taſte roughiſh; of the medical virtues of either, little or nothing is known with certainty.

Upon deeply wounding or boring the trunk of the tree in the beginning of ſpring, a ſweetiſh juice iſſues forth, ſometimes, as is ſaid, in ſo large a quantity as to equal in weight the whole tree and root: one branch will bleed a gallon or more in a day. This juice is chiefly recommended in ſcorbutic diſorders, and other foulneſſes of the blood; its moſt ſenſible effect is to promote the urinary diſcharge.

BEZOAR [*Brun*].

Calculus capræ bezoardicæ.

Bezoar ſtone.

The bezoar ſtone is a calculous concretion found in the ſtomach of certain animals which are ſaid to be of the goat kind. It is compoſed of concentrical coats ſurrounding one another, with a little cavity in the middle, containing a bit of wood, ſtraw, hair, or ſome ſimilar ſubſtance.

The ſhops diſtinguiſh two ſorts of bezoar, one brought from Perſia and the Eaſt Indies, the other from the Spaniſh Weſt Indies. The firſt, or beſt ſort, called oriental bezoar, is of a ſhining dark green or olive colour, and an even ſmooth ſurface; on removing the outward

coat, that which lies underneath it appears likewiſe ſmooth and ſhining. The occidental has a rough ſurface, and leſs of a green colour than the foregoing: it is likewiſe much heavier, more brittle, and of a looſer texture; the coats are thicker, and on breaking exhibit a number of ſtriæ curiouſly interwoven. The oriental is generally leſs than a walnut; the occidental for the moſt part larger, and ſometimes as big as a gooſe egg. The firſt is moſt eſteemed; although now they are ſo little valued in Britain, that a place is given to neither in our pharmacopœias.

Kæmpfer (in whoſe *Amœnitates Exoticæ* a full account of the bezoar animal may be ſeen) informs us, that this ſtone is in high eſteem among the Perſians, and even of greater value than in Europe; this, with ſundry other circumſtances needleſs to relate here, has given occaſion to ſuſpect, that the true bezoar is never brought to us. Some authors relate with great confidence, that all the ſtones commonly ſold under this name are artificial compoſitions. That ſome of them are ſo, is evident; hence the great differences in the accounts which different perſons have given of their qualities: the ſtones examined by Slare as oriental bezoar, did not diſſolve in acids; thoſe which Grew and Boyle tried did: thoſe employed by Geoffroy (in ſome experiments related in the French memoirs 1710) did not ſeem to be acted on by rectified ſpirit; whilſt ſome of thoſe examined by Neumann at Berlin almoſt totally diſſolved therein. The common mark of the goodneſs of this ſtone, is its ſtriking a deep green colour on white paper that has been rubbed with chalk.

Bezoar was not known to the antient Greeks; and is firſt taken notice of by the Arabians, who extol it in a great variety of diſorders, particularly againſt poiſons. Later writers alſo beſtow extraordinary commendations on it as a ſudorific and alexipharmic; virtues to which it certainly has no pretence. It is a morbid concretion, much of the ſame nature with the human calculus, of no ſmell or taſte, not digeſtible in the ſtomach of the animal in which it is found, and ſcarce capable of being acted on by any of the juices of the human body. It cannot be conſidered in any other light than as an abſorbent; and is much the weakeſt of all the common ſubſtances of that claſs. It has been given to half a dram, and ſometimes a whole dram, without any ſenſible effect; though the general doſe is only a few grains, from which nothing can be expected.

BISMUTHUM [*Brun.*]
Viſmuthum nativum.
Biſmuth.

Biſmuth is a ponderous brittle metal, reſembling in appearance the antimonial regulus and zinc, but greatly differing from them in quality. It diſſolves with vehemence in the nitrous acid, which only corrodes the regulus of antimony; and is ſcarcely at all ſoluble in the marine acid, which acts ſtrongly on zinc. A calx and flowers of this ſemimetal have been recommended as ſimilar in virtue to certain antimonial preparations; but are at preſent of no other uſe than as a pigment or coſmetic; and it is now entirely rejected from the Britiſh pharmacopœias.

BISTORTA [*Lond. Ed.*] *Radix.*
Polygonum biſtorta Lin.
Biſtort, or ſnakeweed; the root.

This plant grows wild in moiſt meadows in ſeveral parts of England.

land. The root is about the thickneſs of the little finger, of a blackiſh brown colour on the outſide, and reddiſh within: it is writhed or bent vermicularly (whence the name of the plant) with a joint at each bending, and full of buſhy fibres; the root of the ſpecies here mentioned has, for the moſt part, only one or two bendings; others have three or more.

All the parts of biſtort have a rough auſtere taſte, particularly the root, which is one of the ſtrongeſt of the vegetable aſtringents. It is employed in all kinds of immoderate hæmorrhagies and other fluxes, both internally and externally, where aſtringency is the only indication. It is certainly a very powerful ſtyptic, and is to be looked on ſimply as ſuch; to the ſudorific, antipeſtilential, and other virtues attributed to it, it has no other claim than in conſequence of its aſtringency, and of the antiſeptic power which it has in common with other vegetable ſtyptics. The largeſt doſe of the root in powder is one dram.

BOLI.

Boles are viſcid clayey earths, leſs coherent and more friable than clay ſtrictly ſo called, more readily uniting with water, and more freely ſubſiding from it. They are ſoft and unctuous to the touch, adhere to the tongue and by degrees melt in the mouth, impreſſing a ſlight ſenſe of aſtringency. A great variety of theſe kinds of earths have been introduced into medicine; the principal of which are the following.

(1) Bolus Armena [*Suec.*] Armenian bole, or bole armenic.

Pure Armenian bole is of a bright red colour, with a tinge of yellow: it is one of the hardeſt and moſt compact of the bodies of this claſs; and not ſmooth or gloſſy like the others, but generally of a rough duſty ſurface. It raiſes no effervescence with acids.

(2) Bolus Gallica [*Lond. Ed.*] French bole.

The common French bole is of a pale red colour, variegated with irregular ſpecks or veins of white and yellow. It is much ſofter than the foregoing; and ſlightly effervesces with acids.

(3) Bolus Bleſenis. Bole of Blois.

This is a yellow bole, remarkably lighter than the former, and than moſt of the other yellow earths. It effervesces ſtrongly with acids.

(4) Bolus Bohemica. Bohemian bole.

This is of a yellow colour, with a caſt of red, generally of a flaky texture. It is not acted on by acids.

(5) Terra Lemnia. Lemnian earth.

This is a pale red earth; ſlightly effervesing with acids.

(6) Terra Silesiaca. Sileſian earth.

This is of a browniſh yellow colour: acids have no ſenſible effect upon it. Theſe and other earths, made into little maſſes, and ſtamped with certain impreſſions, are called *terræ ſigillatæ*.

The boles of Armenia and Blois, and the Lemnian earth, are rarely met with genuine in the ſhops; the coarſer boles, or white clay coloured with ochre, caput mortuum of vitriol, &c. frequently ſupply their place. The genuine may be diſtinguiſhed by their ſubſiding uniformly from water, without any ſeparation

tion of their parts; the genuine yellow boles retain their colour, or have it deepened, in the fire: while the counterfeit sorts burn red.

These earths have been recommended as astringent, sudorific, and alexipharmic; and they have been used in diarrhœas, dysenteries, hœmorrhagies, and in malignant and pestilential distempers. In intestinal fluxes, and complaints in the first passages from thin acrimonious humours, they may doubtless be of some use; but the virtues ascribed to them in the other cases appear to have no foundation.

In the London pharmacopœia bole was formerly an ingredient in the *pulvis e bolo*, *e scordio*, *tabellæ cardialgicæ*, *theriaca*, and in one composition for external use, viz. the *lapis medicamentosus*. But now these formulæ are either entirely thrown out, or much changed. Thus for the pulvis e bolo, the pulvis e creta, in which there is no bole, is substituted. The bolus gallica is the only one now retained either in the London or Edinburgh pharmacopœias. It does not enter any of their compositions, and is hardly used in the present practice.

BONUS HENRICUS [*Gen.*] *Herba.*

Chenopodium bonus henricus.

English herb mercury.

This herb is met with by roadsides, and in uncultivated places. It is ranked among the emollient herbs, but rarely made use of in practice. The leaves are applied by the common people for healing slight wounds, cleansing old ulcers, and other like purposes.

BORRAGO [*Gen.*] *Herba.*

Borrago officinalis Lin.

Borage; the herb.

This is a rough plant, clothed with small prickly hairs; it grows wild in waste places, and upon old walls. An exhilirating virtue has been attributed to the flowers of borage, which are hence ranked among the so-called cordial flowers; but they appear to have very little claim to any virtue of this kind, and seem to be altogether insignificant.

BORAX [*Lond. Ed.*]

Natron boracinatum.

Borax, or tincal.

This is a saline substance, brought from the East Indies in great masses, composed partly of great crystals, but chiefly of smaller ones, partly white and partly green, joined together as it were by a greasy yellow substance, intermingled with sand, small stones, and other impurities: the purer crystals, exposed to the fire, melt into a kind of glass, which is nevertheless soluble in water.

This salt, dissolved and crystallised, forms small transparent masses; the refiners have a method of shooting it into large crystals; but these differ in several respects from the genuine salt, insomuch that Cramer calls them not a purified, but adulterated borax. Experiments have clearly shewn, that it consists of a fixt alkaline salt, the same with the basis of sea salt, in some degree neutralised by a peculiar acid.

The medical virtues of borax have not been sufficiently ascertained by experience: it is supposed to be, in doses of half a dram or two scruples, diuretic, emmenagogue, and a promoter of delivery. Mr Bisset, in an essay on the medical constitution of Great Britain, recommends a solution of this salt in water as the most powerful dissolvent yet known of aphthous crusts in the mouth and fauces of children. And for the same purpose also

alſo a ſmall quantity of it is often applied in the form of powder, mixed up with ſugar. There are ſtrong reaſons to believe, that the virtues of borax are much greater than they are in general ſuppoſed to be; and that it may be more extenſively uſed with advantage.

BOTRYS [*Suec.*] *Herba, ſemen.*

Chenopodium botrys Lin.

Jeruſalem oak; the leaves and ſeed.

This plant is cultivated in gardens. It has a ſtrong not diſagreeable ſmell, and a warm ſomewhat pungent taſte. It is recommended as a carminative pectoral; and it has alſo been recommended as an emmenagogue. Infuſions of it may be drank as tea: and in this form it has been recommended in caſes of chronic catarrh. But the proper menſtruum for the active matter, both of the leaves and ſeed, is rectified ſpirit.

BRASSICA [*Gen.*] *Herba, ſemina.*

Braſſica oleracea Lin.

White and red cabbages, &c.

Theſe are cultivated in gardens rather for culinary than medicinal uſe. They are all ſuppoſed to be hard of digeſtion, to afford little nouriſhment, and to produce flatulencies; though probably on no very good foundation. They tend ſtrongly to putrefaction, and run into this ſtate ſooner than almoſt any other vegetable; when putrid their ſmell is likewiſe the moſt offenſive, greatly reſembling that of putrified animal ſubſtances. Hence it ſeems reaſonable to conclude, that few of the oleraceous herbs are more eaſily ſoluble in the ſtomach, more nutritious or leſs remote from the nature of animal-food. It is undeniable, that in general at leaſt they are not unwholeſome; that they do not induce or promote a putrid diſpoſition in the body; but on the contrary prove a ſalubrious aliment; that when taken freely, they tend to looſen the belly; and that their laxative matter is extracted by long boiling in water. Of all theſe plants, cauliflower is reckoned the eaſieſt of digeſtion. The white is the moſt fetid; and the red the moſt emolient or laxative: a decoction of this laſt is recommended in ſome diſorders of the breaſt and in hoarſeneſs.

Sliced cabbage caſked up with ſalt, &c. becomes ſour, keeps long, is uſed in Germany at table under the name of ſourcrout; and it has lately been introduced as an article of diet with the Britiſh forces, either in garriſons beſieged, or on long voyages. It is now clearly demonſtrated, that in theſe ſituations it operates as a moſt powerful preventive of ſcorbutus; and that it has even had very great influence in curing the diſeaſe after it has taken place.

Cabbage has alſo been uſed for medical purpoſes as externally applied. The leaves gently bruiſed are often applied to parts previouſly bliſtered, with the effect of promoting a conſiderable diſcharge. They excite a conſiderable watery diſcharge through the ſkin in caſes of anaſarca, particularly when applied to the ankles: And they have ſometimes even the effect of inducing veſications. As thus externally applied, they have in ſome inſtances produced a complete diſcharge of the water in caſes of anaſarca.

BRASSICA MARINA [*Brun.*]

Convolvulus ſoldanella Lin.

Sea coleworts, Scots ſcurvygraſs, or ſoldanella; the leaves.

This

This is a trailing plant, growing on the ſea beach in many parts of the north of England. The roots, leaves, and ſtalks, yield a milky juice.

Soldanella is a ſtrong cathartic, operating very churliſhly, and hence deſervedly rejected from practice. Thoſe who recommend its uſe differ conſiderably with regard to the doſe; ſome direct half a dram; others three drams, and others a whole handful.

BRITANNICA, vide LAPATHUM.

BRYONIA [*Ed.*] *Radix.*

Bryonia alba Lin.

White bryony, or wild vine; the roots.

This is a rough plant, growing on dry banks under hedges, and climbing upon the buſhes. The roots are large, ſometimes as thick as a man's thigh; their ſmell, when freſh is ſtrong and diſagreeable; the taſte naufeouſly bitter, acrid, and biting: the juice is ſo ſharp, as in a little time to excoriate the ſkin: in drying, they loſe great part of their acrimony, and almoſt the whole of their ſcent.

Bryony root is a ſtrong irritating cathartic; and as ſuch has ſometimes been ſucceſsfully exhibited in maniacal caſes, in ſome kinds of dropſies, and in ſeveral chronical diſorders, where a quick ſolution of viſcid juices, and a ſudden ſtimulus on the ſolids, were required. An extract prepared by water, acts more mildly and with greater ſafety than the root in ſubſtance; given from half a dram to a dram, it is ſaid to prove a gentle purgative, and likewiſe to operate powerfully by urine.

Bryony root, applied externally, is ſaid to be a powerful diſcutient. Hence, although this as well as many other draſtic and active articles are now rejected by the London college, yet we think that it ought not only to be retained, but that a place ſhould alſo be given in our phamacopœias to the extract.

BUGLOSSUM [*Gen.*] *Radix, folia.*

Anchuſa officinalis Lin.

Garden bugloſs; the root and leaves.

This is a rough, hairy plant, reſembling borage, but leſs prickly: a wild ſort is commonly met with in hedges and among corn, which differs from the garden only in being ſmaller. Bugloſs has a ſlimy ſweetiſh taſte, accompanied with a kind of coolneſs: the roots are the moſt glutinous, and the flowers the leaſt ſo. The flowers are one of the four called cordial flowers: the only quality they have that can intitle them to this appellation, is, that they moderately cool and ſoften without offending the palate or ſtomach; and thus, in warm climates, or in hot diſeaſes, may in ſome meaſure refreſh the patient; but at preſent they are very rarely employed.

BURSA PASTORIS [*Brun.*] *Folia.*

Thlaſpi burſa paſtoris Lin.

Shepherd's purſe; the leaves.

This plant is common in waſte places, and is found in flower all the ſummer. Shepherds-purſe has long been celebrated as an aſtringent, and ſtrongly recommended in diarrhœas, dyſenteries, uterine fluors, and in general in all diſeaſes where aſtringents of any kind can avail. Some have eſteemed it ſo powerful a ſtyptic, as ſcarce to be ſafely exhibited internally. Others have thought

thought it to be of a hot fiery nature, and ſuppoſed it to ſtop fluxes and hæmorrhagies, by coagulating the juices like alkohol, and burning or ſearing the orifices of the veſſels. The ſenſible qualities of ſhepherds-purſe diſcover little foundation for either of theſe opinions; it has no perceptible heat, acrimony, or pungency, and ſcarcely any aſtringency; the taſte is almoſt merely herbaceous, ſo as ſufficiently to warrant the epithet given this plant by Mr Ray, *Fatuum*. And although it be ſtill retained in moſt of the foreign pharmacopœias, yet it is hardly in uſe in Britain.

BUXUS [*Brun.*] *Folia, Lignum.*
Buxus ſempervirens Lin.
Box tree; the leaves and wood.

The box is a ſmall tree, growing wild in ſome places of Kent and Surry. The wood is of a yellow colour, more ſolid, compact, and ponderous than any other of the European woods. The leaves have a ſtrong nauſeous taſte, and, when freſh, a fetid ſmell: they are ſaid to purge violently, in the doſe of a dram. A decoction of the wood is recommended by ſome as powerfully ſudorific, preferable even to guaiacum: but the taſte readily diſcovers that it wants the qualities of that wood. Neither the wood nor leaves of the box tree are at preſent employed for any medicinal purpoſe in Britain; and they are now rejected by our colleges: But from their active qualities, particularly that of the leaves, they deſerve ſome attention, and may perhaps be advantageouſly ſubſtituted for expenſive articles imported from abroad.

CACOA [*Suec.*] *Nuclei.*
Theobroma cacoa Lin.
Chocolate nuts.

Theſe are the fruit of an American tree reſembling the almond. The tree, though ſmall, bears a large fruit, ſhaped like a cucumber, which contains thirty or more of the nuts. Theſe, by preſſure, yield a conſiderable quantity of a fluid oil. Boiled in water, they give out a large portion of a ſebaceous matter, which congeals on the ſurface of the liquor as it cools. The principal uſe of theſe nuts is for the preparation of the diuretic liquor chocolate. This is a mild, unctuous, nutritious fluid, capable of ſoftening acrimonious humours, and of great ſervice in conſumptive diſorders; eſpecially if made with milk, and with only a ſmall proportion of aromatics.

CAJEPUT [*Suec.*] *Oleum.*
Maleleuca leucadendron.
Cajeput oil.

This article has never yet had any place in our pharmacopœias; but it is introduced into ſome of the beſt foreign ones; and it is mentioned by ſeveral writers on the materia medica as an article in very high eſteem among the eaſtern nations, particularly in India. It is ſaid to be obtained by diſtillation, from the fruit of the maleleuca leucadendron. When brought into this country it is a liquid of a greeniſh colour, of a fragrant, but at the ſame time a very peculiar odour, and of a warm pungent taſte. Some authors, however, repreſent this oil as being, when of the beſt quality, a white or colourleſs fluid; and it has been ſaid by the authors of the Diſpenſatorium Brunſvicenſe, when prepared in Europe from the ſeeds ſent from India, to be entirely of this appearance.

Hitherto the oleum cajeput has been but little employed, either in Britain or on the continent of Europe; but in India it is uſed both internally and externally, and is highly extolled for its medical properties.

perties. It is applied externally where a warm and peculiar ſtimulus is requiſite; it is employed for reſtoring vigour after luxations and ſprains, and for eaſing violent pain in gouty and rheumatic caſes, in tooth-ach, and ſimilar affections; but it has been chiefly celebrated as taken internally, and it is particularly ſaid to operate as a very powerful remedy againſt tympanitic affections.

CALAMINARIS LAPIS

[*Lond. Ed.*]

Zincum calaminaris.

Calamy, or calamine ſtone.

This mineral is found plentifully in England, Germany, and other countries, either in diſtinct mines, or intermingled with the ores of different metals. It is uſually of a greyiſh, browniſh, yellowiſh, or pale reddiſh colour; conſiderably hard, though not ſufficiently ſo to ſtrike fire with ſteel. It has been looked upon by ſome as a ſimple earth, by others as an iron ore; later experiments have diſcovered it to be an ore of zinc. Calamine is generally roaſted or calcined before it comes into the ſhops, in order to ſeparate ſome ſulphureous or arſenical matter which the crude mineral is ſuppoſed to contain, and to render it more eaſily reducible into a fine powder. In this ſtate it is employed in collyria, againſt defluxions of thin acrid humours upon the eyes: for drying up moiſt, running ulcers; and healing excoriations. It is the baſis of an officinal epulotic cerate, the ceratum lapidis calaminaris.

CALAMUS AROMATICUS

[*Lond. Ed.*] *Radix.*

Acorus calamus Lin.

Sweet flag; the roots.

This flag reſembles, as to its leaves, the common *iris*; but in other reſpects differs greatly from it: the ſtalks grows at a little diſtance from the leaves; the lower half, up to where the flowers come forth, is roundiſh; the part above this, broad like the other leaves; the flowers are very ſmall, whitiſh, and ſtand in a kind of head about the ſize of a finger. This plant grows plentifully in rivulets and marſhy places about Norwich and other parts of this iſland, in the canals of Holland, in Switzerland, and in other countries of Europe. The ſhops have been uſually ſupplied from the Levant with dried roots, which do not appear to be ſuperior to thoſe of our own growth.

The root of acorus is full of joints, crooked, ſomewhat flatted on the ſides, internally of a white colour, and looſe ſpongy texture; its ſmell is ſtrong; the taſte warm, acrid, bitteriſh, and aromatic; both the ſmell and taſte are improved by exſiccation. This root is generally looked upon as a carminative and ſtomachic medicine, and as ſuch is ſometimes made uſe of in practice. It is ſaid by ſome to be ſuperior in aromatic flavour to any other vegetable that is produced in theſe northern climates: but this aſſertion is by no means ſtrictly true. It is, nevertheleſs, a ſufficiently elegant aromatic. It was formerly an ingredient in the mithridate and theriaca of the London pharmacopœia; and in the aromatic and ſtomachic tinctures, and compound arum powder, of the Edinburgh; but it is now rejected from theſe, and it does not at preſent enter any officinal preparation. The freſh root, candied after the manner directed for candying eryngo root, is ſaid to be uſed at Conſtantinople as a preſervative againſt epidemic diſeaſes. The leaves of this plant have a ſweet fragrant ſmell, more agreeable, though

though weaker, than that of the roots; but they have no place either in the British or foreign pharmacopœias.

CALENDULA [*Brun.*] *Flos.*
Calendula officinalis Lin.
Garden marigold; the flower.

This herb is common in gardens, where it is found in flower greatest part of the summer. Marigold flowers are supposed to be aperient and attenuating; and also cardiac, alexipharmac, and sudorific: they have been principally celebrated in uterine obstructions, in the jaundice, and for throwing out the small-pox. Their sensible qualities give little foundation for these virtues: they have scarcely any taste, and no considerable smell. The leaves of the plant discover a viscid sweetishness, accompanied with a more durable saponaceous pungency and warmth: these seem capable of answering some useful purposes, as a stimulating and aperient medicine; but at present they are so little employed in Britain, that they have now no place in our pharmacopœias, and they are also rejected from several of the latest and best foreign ones.

CALX VIVA [*Lond. Ed.*]
Lapis calcareus purus recens ustus.
Quicklime.

Quicklime is usually prepared among us by calcining certain stones of the chalky kind. All chalks and marbles burn into quicklime; with this difference, that the more compact the stone, generally the stronger is the lime. In maritime countries, in defect of the proper stones, sea-shells are made use of, which afford a calx agreeing in most respects with the stone limes.

All these limes are, when fresh burnt, highly acrimonious and corrosive, being thus freed from fixt air. In this state they are employed in some external applications as a depilatory; for rendering sulphur soluble in water, and for depriving alkalies of their fixt air, thus increasing their power, either for the purposes of a caustic, or to enable them more readily to dissolve oils for making soap. If the lime be exposed for a length of time to the air, it absorbs water; falls by degrees into a powder; and, attracting fixt air, loses greatly of its acrimony.

Water poured directly upon quicklime, takes up a portion of it: the solution has a strong taste, somewhat styptic, drying the mouth, and accompanied with a kind of sweetness. This liquor does not effervesce with acids, but is rendered by fixt air turbid and milky: as preventing the coagulation of milk, it is sometimes made use of along with milk diet; agitated with expressed oils, it unites with them into a thick compound, recommended by Dr Slaire, and much used against burns and inflammations. Both the simple solution of the lime, and the solution impregnated with other materials, are directed as officinal, under the title of lime water.

Lime water, drank to the quantity of a quarter of a pint three or four times a-day, and continued for a length of time, has been found serviceable in scrophulous cases, and other obstinate chronic disorders. It frequently promotes urine, and not unfrequently the cuticular discharge: for the most part it binds the belly, and sometimes produces troublesome costiveness, unless this effect be occasionally provided against, by the interposition of proper medicines. It does good service in debility and laxity of the viscera in general; in those of the uterine and seminal vessels, fluor albus, chronic menorrhagia, and gleets, it is particularly

ticularly recommended. Care muſt be taken not to uſe this medicine too liberally in hot bilous conſtitutions, or where the patient is much emaciated, or the appetite weak, or at the time of any critical or periodical evacuations. It has been uſed as lithontriptic; and although incapable of diſſolving calculi in the urinary organs, yet under its uſe calculous patients have experienced great relief. In the form of injection it is very effectual in killing and bringing off aſcarides.

CAMPHORA [*Lond. Ed.*]
Laurus camphora Lin.
Camphor.

Camphor is a very peculiar ſubſtance, obtained in the form of a ſolid concrete, chiefly extracted from the wood and roots of a tree growing in Sumatra and Japan. The former is by much the beſt. As it firſt ſublimes from the wood, it appears browniſh, compoſed of ſemipellucid grains mixed with dirt: in this ſtate it is exported by the Dutch, and purified by a ſecond ſublimation; after which, it is reduced into loaves (in which it is brought to us) probably by fuſion in cloſe veſſels; for it does not aſſume this form in ſublimation. Camphor is procurable in ſmall quantities from various other vegetables by diſtillation. It may be conſidered as a peculiar, concrete, very volatile eſſential oil.

Pure camphor is very white, pellucid, ſomewhat unctuous to the touch; of a bitteriſh, aromatic, acrid taſte, yet accompanied with a ſenſe of coolneſs; of a ſmell ſomewhat like that of roſemary, but much ſtronger. It is totally volatile, and inflammable; ſoluble in vinous ſpirits, oils, and the mineral acids; not in water, alkaline liquors, or the acids of the vegetable kingdom. This concrete is eſteemed one of the moſt efficacious diaphoretics; and has long been celebrated in malignant fevers, and epidemical diſtempers. In dilirium, where opiates fail of procuring ſleep, and aggravate the ſymptoms, this medicine frequently ſucceeds.

Dr Alexander, ſome time ago a practitioner in Edinburgh, made many experiments on this article, particularly by taking it himſelf in large doſes. On taking a ſcruple of camphor, he found his pulſe ſomewhat leſs frequent: on taking two, his pulſe fell from 77 to 70, but returned to 77 in leſs than half an hour; at which time vertigo and a gradual abolition of conſciouſneſs came on, ſucceeded by violent retchings, convulſions, and mania, the pulſe riſing to 100. He then began to recover his recollection, felt extremely hot, with tremors of the whole body. By uſing warm water he threw up the camphor, the effects of which gradually wore off, only he felt his body for two days very ſore and rigid.

Frederick Hoffman has written an expreſs diſſertation *De Camphoræ uſu interno ſecuriſſimo et præſtantiſſimo.* The ſubſtance of his obſervations is, that camphor ſeems to penetrate very quickly thro' the whole body, and increaſe perſpiration: that though given to the quantity of half a dram, diſſolved in ſpirit of wine and duly diluted, it does not raiſe the pulſe, or occaſion any heat, but rather cauſes a ſenſe of coolneſs about the præcordia: that on continuing its uſe for ſome time, the blood became ſenſibly more fluid, and the quantity of watery ſerum, which the habit before abounded with, was conſiderably diminiſhed: that in malignant fevers, and all diſorders, whether acute or chronical, proceeding from an acrid or putreſcent ſtate of the juices, camphor has excellent effects, correcting the acrimony, expelling the putrid morbific matter through the cu-

cutaneous pores, and preventing an inflammation or sphacelus, where there is previously any disposition thereto: that, by strengthening the vessels, it restrains hæmorrhagies happening in acute fevers, and promotes critical and periodical evacuations; that it expels even the venereal virus; that he has known examples of the lues being cured by camphor alone, a purgative only being premised; and that in recent infections he has found no medicine equal to it in efficacy. In inflammatory cases, where there is a tendency to mortification, intense heat, thirst, or where the skin is dry and parched, whether before or after a delirium has come on, small doses of camphor joined with nitre produced happy effects, almost immediately relieving the symptoms, occasioning a calm sleep and plentiful sweat, without fatiguing the patient. He farther observes, that this simple, by its antiphlogistic quality, prevents the ill effects of the more irritating medicines; that cantharides, and the acrid stimulating cathartics and diuretics, by the admixture of a small proportion of camphor, become much more mild and safe in operation.

The common dose of camphor is from one grain to ten. It enters several officinal preparations, both for external and internal use; particularly the linimentum camphoræ, linimentum saponis, balsamum anodynum, oleum camphoratum, spt. vinosus camphoratus, mistura camphorata, tinctura opii camphorata, &c.

In modern practice, it is externally employed chiefly to diminish inflammation, to discuss tumor, to obviate gangrene, to stimulate in local palsy, and to allay rheumatic and paralytic pains. Internally, it is given in nervous affections, with a view of exciting the vis vitæ, and alleviating spasmodic complaints: with the same view to the vis vitæ, to obviate putrescence, and to procure sleep, it is used in fevers of the typhous kind. Some recommend it as singularly useful in cases of ardor urinæ; and others find it efficacious in what are called nervous headachs.

CANCRORUM CHELÆ [*Lond.*]

Cancer pagurus Lin.

Crabs claws.

These are the black tips of the claws of a particular species of sea-crab. After being broken down, and well washed in boiling water, they are reduced to powder, and employed as an absorbent. They consist of a calcareous animal earth, and of course neutralize those acids with which they come in contact in the primæ viæ. But besides an earth, they contain also a glutinous animal matter, which gives them a tendency to concrete in the stomach and bowels: hence absorbents from the mineral kingdom are perhaps preferable; but while these, as magnesia, often operate as cathartics, the chelæ cancrorum tend rather to bind the body; a circumstance which renders them preferable in some cases. They enter some officinal preparations, as the pulvis e chelis cancrorum compositus. The chelæ cancrorum have now no place in the Edinburgh pharmacopœia. They employ for the same purposes the article next to be mentioned, which is now rejected by the London college.

CANCRORUM OCULI *dicti* [*Ed.*]

Cancer astacus Lin.

Crabs eyes.

The Edinburgh college are, we think, in the right in retaining this article in preference to the former, as being a more pure absorbent earth; but it is with little propriety that

that they have retained the antient name, which has often led to an absurd mistake: for the article denominated crabs eyes is a stony concretion found in the head, stomach, and other parts of a particular species of crab. Hence in the best foreign pharmacopœias they are denominated cancrorum calculi, lapilli, &c.

The calculi cancrorum are generally about the size of peas, or larger. They are of a spherical shape, but a little flatted on one side. They are of a white colour, but sometimes with a reddish or blueish cast, and internally of a laminated structure. The greatest part of them are the produce of Muscovy, particularly of the river Don, where the dead crabs are laid upon the banks in heaps, to putrify, after which the stones are picked out.

The earth of crab-stones is said to differ materially from the preceding article, in not being convertible into quicklime; but their medical differences are very inconsiderable; solutions of the two articles in vinegar, or other vegetable or animal acids, being nearly alike. As well as the former article, they are employed as absorbents, and are sometimes very useful in the diarrhœas of children, arising from acidity, where any objection occurs to the employment of magnesia.

Crabs stones are said by most writers on the materia medica to be frequently counterfeited with tobacco-pipe clay, or compositions of chalk with mucilaginous substances. This piece of fraud, if really practised, may be very easily discovered; the counterfeits wanting the leafy texture which is observed upon breaking the genuine; more readily imbibing water; adhering to the tongue; and dissolving in vinegar, or the stronger acids diluted with water, either entirely, or not at all, or by piecemeal; while the true crabs eyes, digested in these liquors, become soft and transparent, their original form remaining the same: this change is owing to the earthy part, on which depended their opacity and hardness, being dissolved by the gentle action of the acid, which leaves the conglutinating matter unhurt.

CANELLA ALBA [*Lond. Ed.*] *Cortex.*

Winterania canella Lin.

Canella alba.

This bark is brought to us rolled up into long quills, thicker than cinnamon, and both outwardly and inwardly of a whitish colour, lightly inclining to yellow. It is the produce of a tall tree growing in great plenty in the low lands in Jamaica, and other American islands. Infusions of it in water are of a yellowish colour, and smell of the canella; but they are rather bitter than aromatic. Tinctures in rectified spirit have the warmth of the bark, but little of its smell. Proof-spirit dissolves the aromatic as well as the bitter matter of the canella, and is therefore the best menstruum.

The canella is the interior bark, freed from an outward thin rough one, and dried in the shade. The shops distinguish two sorts of canella, differing from each other in the length and thickness of the quills; they are both the bark of the same tree, the thicker being taken from the trunk, and the thinner from the branches. This bark is a warm pungent aromatic, not of the most agreeable kind: nor are any of the preparations of it very grateful.

Canella alba is often employed where a warm stimulant to the stomach is necessary, and as a corrigent of other articles. It is now, however, little used in composition by the London college; the only

only officinal formula which it enters being the pulvis aloeticus: but with the Edinburgh college it is an ingredient in the tinctura amara, vinum amarum, vinum rhei, &c. It is useful as covering the taste of some other articles.

CANNABIS [*Brun.*] *Semen.*
Cannabis sativa Lin.
Hemp; the seed.

This plant, when fresh, has a rank narcotic smell: the water in which the stalks are soaked, in order to facilitate the separation of the tough rind for mechanic uses, is said to be violently poisonous, and to produce its effects almost as soon as drank. The seeds also have some smell of the herb; their taste is unctuous and sweetish; on expression they yield a considerable quantity of insipid oil; hence they are recommended (boiled in milk, or triturated with water into an emulsion) against coughs, heat of urine, and the like. They are also said to be useful in incontinence of urine, and for restraining venereal appetites; but experience does not warrant their having any virtues of this kind. But although the seeds only have hitherto been principally in use, yet other parts of the plant seem to be more active, and may be considered as deserving farther attention.

CANTHARIS [*Lond. Ed.*]
Meloe vesicatorius Lin.
The Spanish fly.

These insects are of a shining green colour, intermingled with more or less of a blue and a gold yellow. They are found adhering to different kind of trees and herbs, in Spain, Italy, and France; the largest come from Italy, but the smaller kind from Spain are preferred.

Cantharides are extremely acrimonious; applied to the skin, they first inflame, and afterwards excoriate the part, raising a more perfect blister than any of the vegetable acrids, and occasioning a more plentiful discharge of serum. Even the external application of cantharides is often followed by a stranguary, accompanied with thirst and feverish heat: this inconvenience may be remedied by soft unctuous or mucilaginous liquors liberally drank. The stranguary is probably owing to the action of the absorbed active parts on the neck of the bladder.

Cantharides taken internally, often occasion a discharge of blood by urine, with exquisite pain: if the dose be considerable, they seem to inflame and exulcerate the whole intestinal canal; the stools become mucous and purulent; the breath fetid and cadaverous; intense pains are felt in the lower belly; the patient faints, grows giddy, raving mad, and dies. All these terrible consequences have sometimes happened from a few grains. Herman relates, that he has known a quarter of a grain inflame the kidneys, and occasion bloody urine with violent pain. There are nevertheless cases in which this stimulating fly, given in larger doses, proves not only safe but of singular efficacy for the cure of diseases that yield little to medicines of a milder class. In phlegmatic habits, where the viscera are overloaded, and the kidneys and ureters obstructed with thick viscid mucous matter, cantharides have excellent effects: here the abounding mucus defends the solids from the acrimony of the fly, till it is itself expelled; when the medicine ought to be discontinued. Groenvelt employed cantharides with great success in dropsies, obstinate suppressions of urine, and ulcerations of the bladder; giving very considerable doses made into boluses with camphor; and interposing large draughts of emulsions, milk,

milk, or other emollient liquids; by this means the exceſſive irritation which they would otherwiſe have occaſioned, was in a great meaſure prevented. The camphor did not perhaps contribute ſo much to this effect, as is generally imagined; ſince it has no ſenſible quality that promiſes any conſiderable abatement of the acrimony of cantharides: nitre would anſwer all that the camphor is ſuppoſed to perform: this, with milk, or emollient mucilaginous liquors, drank in large quantity, are the beſt correctors. Cantharides, in very ſmall doſes, may be given with ſafety alſo in other caſes. Dr Mead obſerves, that the obſtinate gleets which frequently remain after the cure of venereal maladies, and which rarely yield to balſamic medicines, are effectually remedied by cantharides; and that no one remedy is more efficacious in leprous diſorders; in which laſt, proper purgatives are to be occaſionally taken during the uſe of the cantharides. The beſt and ſafeſt preparation of cantharides for theſe purpoſes, is a ſpirituous tincture; and indeed in all caſes the tincture is far preferable, for internal uſe, to the fly in ſubſtance.

On an idea of the ſtimulus accumulated about the genital organs being propagated to parts in the neighbourhood, the internal uſe of the tincture has alſo been recommended in diabetes, leucorrhœa, amenorrhœa, &c. but from the dangerous effects ſometimes obſerved from ſeemingly inconſiderable doſes, cantharides are now almoſt entirely confined to external application.

They are ſometimes uſed as merely rubefacient, as in friction, with the tincture, on indolent ſwellings, or in form of weak plaſter, but moſt commonly in form of full bliſter, chiefly with a view of relieving torpor, of determining the impetus of the blood from the part affected to the part of application, of diſcharging ſerum, and of relieving ſpaſms in certain internal parts.

The virtues of cantharides are extracted by rectified ſpirit of wine, proof-ſpirit, and water; but do not ariſe in diſtillation. The watery and ſpirituous extracts bliſter as freely as the fly in ſubſtance; whilſt the fly remaining after the ſeveral menſtrua have performed their office, is to the taſte inſipid, and does not in the leaſt bliſter, or inflame the ſkin; hence the *unguentum ex infuſo cantharidum*: But beſides this, cantharides are the active baſis of ſeveral other officinal preparations, as the tinctura cantharidis, emplaſtrum cantharidis, unguentum cantharidis, &c.

CAPPARIS [*Brun.*] *Radicis cortex et florum gemmæ.*

Capparis ſpinoſa Lin.

Caper buſh; the bark of the root and buds of the flowers.

This is a low prickly buſh, found wild in Italy and other countries; it is raiſed with us by ſowing the ſeeds upon old walls, where they take root between the bricks, and endure for many years.

The bark of the root is pretty thick, of an aſh colour, with ſeveral tranſverſe wrinkles on the ſurface; cut in ſlices and laid to dry, it rolls up into quills. This bark has a bitteriſh acrid taſte; it is reckoned aperient and diuretic; and recommended in ſeveral chronic diſorders, for opening obſtructions of the viſcera.

The buds, pickled with vinegar, &c. are uſed at table. They are ſuppoſed to excite appetite, and promote digeſtion: and to be particularly uſeful, as detergents and aperients, in obſtructions of the liver and ſpleen. Their taſte and virtues depend

depend more upon the saline matter introduced into them, than on the caper buds.

CARDAMINE [*Lond. Ed.*]

Flos.

Cardamine pratensis Lin.

Ladies Smock; the flower.

The cardamine is a perennial plant, which grows in meadow grounds, sends forth purplish flowers in the spring; and in its sensible qualities resembles the *nasturtium aquaticum*. Long ago it was employed as a diuretic; and of late it has been introduced in nervous diseases, as epilepsy, hysteria, chorea, asthma, &c. A dram or two of the powder is given twice or thrice a-day. It has little sensible operation, except that it sometimes sweats.

CARDAMOMUM MINUS [*Lond. Ed.*] *Semen.*

Amomum cardamomum Lin.

Lesser cardamom.

Formerly a place was given in our pharmacopœias to different kinds of cardamom seeds, and particularly to the large as well as the small; but the latter, though scarce half the size of the former, are considerably stronger both in smell and taste. Hence this sort has long supplied the place of the other in the shops, and is the only one now directed.

Cardamom seeds are a very warm, grateful, pungent aromatic, and are frequently employed as such in practice: they are said to have this advantage, that notwithstanding their pungency, they do not, like those of the pepper kind, immoderately heat or inflame the bowels. Both water and rectified spirit extract their virtues by infusion, and elevate them in distillation; with this difference, that the tincture and distilled spirit are considerably more grateful than the infusion and distilled water: the watery infusion appears turbid and mucilaginous; the tincture made in spirit, limpid and transparent. The husks of the seeds, which have very little smell or taste, may be commodiously separated, by commiting the whole to the mortar, when the seed will readily pulverise, so as to be freed from the shell by the sieve: this should not be done till just before using them; for if kept without the husks, they soon lose considerably of their flavour.—The officinal preparations of these seeds are spirituous tinctures, simple and compound: they are employed also as a spicy ingredient in several of the officinal compositions.

CARDIACA [*Gen.*] *Folia.*

Leonurus cardiaca Lin.

Motherwort; the leaves.

This plant is common in waste places, and found in flower greatest part of the summer. The leaves have a bitter taste, and a pretty strong smell: they are supposed to be useful in hysteric disorders, to strengthen the stomach, to promote urine; and indeed it may be judged from their smell and taste, that their medicinal virtues are considerable, though they are now rejected both from the London and Edinburgh pharmacopœias.

CARDUUS BENEDICTUS [*Lond. Ed.*] *Herba.*

Centaurea benedicta Lin.

Blessed thistle; the plant.

This is an annual plant, cultivated in gardens: it flowers in June and July, and perfects its seeds in the autumn. The herb should be gathered when in flower, dried in the shade, and kept in a very dry airy place, to prevent its rotting or growing mouldy, which it is very apt to do. The leaves have a penetrating bitter taste, not very strong or very durable, accompanied with

an ungrateful flavour, which they are in great measure freed from by keeping. Water extracts, in a little time, even without heat, the lighter and more grateful parts of this plant; if the digestion be continued for some hours, the disagreeable parts are taken up; a strong decoction is very nauseous and offensive to the stomach. Rectified spirit gains a very pleasant bitter taste, which remains uninjured in the extract.

The virtues of this plant seem to be little known in the present practice. The nauseous decoction is sometimes used to provoke vomiting; and a strong infusion to promote the operation of other emetics. But this elegant bitter, when freed from the offensive parts of the herb, may be advantageously applied to other purposes. We have frequently experienced excellent effects from a light infusion of carduus in loss of appetite, where the stomach was injured by irregularities. A stronger infusion made in cold or warm water, if drank freely, and the patient kept warm, occasions a plentiful sweat, and promotes all the secretions in general.

The seeds of this plant are also considerably bitter, and have been sometimes used with the same intention as the leaves.

CARICA [*Lond. Ed.*] *Fructus.*
Ficus carica Lin.
The fig; the dried fruit.

The principal use of these is as a soft, emolient sweet; with this intention they enter the pectoral decoction and lenitive electuary of the shops. They are also esteemed by some as suppuratives, and hence have a place in maturating cataplasms; and they are sometimes applied by themselves as warm as they can easily be borne, to promote the suppuration of a phlegmon, particularly when so situated that other cataplasms cannot easily be kept applied.

CARLINA [*Gen.*] *Radix.*
Carlina acaulis Lin.
Carline thistle; the root.

This is a very prickly sort of thistle, growing spontaneously in the southern parts of France, Spain, Italy, and the mountains of Switzerland; from whence the dried roots are brought to us. This root is about an inch thick, externally of a pale rusty brown colour, corroded as it were on the surface, and perforated with numerous small holes, appearing when cut as if worm-eaten. It has a strong smell, and a subacrid, bitterish, weakly aromatic taste. Carlina is looked on as a warm diaphoretic and alexipharmac; and has been for some time greatly esteemed by foreign physicians, but never came much into use among us: the present practice has entirely rejected it; nor is it often to be met with in the shops. Hoffman relates, that he has observed a decoction of it in broth to occasion vomiting.

CARPOBALSAMUM [*Brun.*] *Fructus.*
Amyris Gileadensis Lin.
Carpobalsam; the fruit.

This is the fruit of the tree that yields the opobalsam or balsam of Gilead. It is about the size of a pea, of a whitish colour, inclosed in a dark brown wrinkled bark. This fruit, when in perfection, has a pleasant warm glowing taste, and a fragrant smell, resembling that of the opobalsamum itself. It is very rarely found in the shops; and such as we now and then do meet with, has almost entirely lost its smell and taste. It had formerly a place in the mithridate and theriaca formulæ, now banished from our pharmacopœias; but even then the college permitted

permitted cubebs to be employed as a substitute for the carpobalsamum, which could seldom be procured; and it is probably on this account that it has now no place in our lists.

CARTHAMUS [*Brun.*] *Semen.*
Carthamus tinctorius Lin.
Bastard saffron; the seeds.

The bastard saffron is a soft kind of thistle, with only a few prickles about the edges of the leaves. It is cultivated in large quantity in some places of Germany; from whence the other parts of Europe are supplied with the flowers as a colouring drug, and the seeds as a medicinal one. The flowers, well cured, are not easily distinguishable by the eye from saffron; but their want of smell readily discovers them. The seeds are white, smooth, of an oblong roundish shape, yet with four sensible corners, about a quarter of an inch in length, so heavy as to sink in water; of a viscid sweetish taste, which in a little time becomes acrid and nauseous. These seeds have been celebrated as a cathartic: they operate very slowly, and for the most part disorder the bowels, especially when given in substance; triturated with aromatic distilled waters, they form an emulsion less offensive, yet inferior in efficacy, to more common purgatives.

CARUON [*Lond. Ed.*] *Semen.*
Carum carvi Lin.
Caraway; the seeds.

Caraway is an umbelliferous plant, cultivated with us in gardens both for culinary and medicinal use. The seeds have an aromatic smell, and a warm pungent taste. These are in the number of the four greater hot seeds; and frequently employed as a stomachic and carminative in flatulent colics, and the like.

They were formerly the basis of several officinal preparations, and entered many compositions by way of a corrigent. But altho' they be now less frequently employed than before, yet a place is still given to their essential oil and distilled spirit; and they enter the compound spirit of juniper, the tincture of senna, and some other compositions.

CARYOPHYLLUM AROMATICUM [*Lond. Ed.*]
Caryophyllus aromaticus Lin.
Cloves.

Cloves are the fruit of a tree growing in the East-Indies. In shape, they somewhat resemble a short thick nail.

Cloves have a very strong agreeable aromatic smell, and a bitterish pungent taste, almost burning the mouth and fauces. The Dutch, from whom we have this spice, frequently mix it with cloves which have been robbed of their oil: These, though in time they regain from the others a considerable share both of taste and smell are easily distinguishable by their weaker flavour and lighter colour. Cloves, considered as medicines, are very hot stimulating aromatics, and possess in an eminent degree the general virtues of substances of this class. An extract made from them with rectified spirit is excessively hot and pungent: the distilled oil has no great pungency; an extract made with water is nauseous, and somewhat styptic. The only officinal preparation of them is the essential oil. Both the cloves themselves and their oil are ingredients in many officinal compositions.

CARYOPHYLLUM RUBRUM [*Lond. Ed.*] *Flos.*

Dianthus Caryophyllus Lin.

Clove July-flowers.

A great variety of these flowers are met with in our gardens: those made use of in medicine ought to be of a deep crimson colour, and a pleasant aromatic smell, somewhat like that of cloves: many sorts have scarce any smell at all. The *caryophylla rubra* are said to be cardiac and alexipharmac. Simon Paulli relates, that he has cured many malignant fevers by the use of a decoction of them; which he says powerfully promotes sweat and urine, without greatly irritating nature, and also raises the spirits and quenches thirst. At present the flowers are chiefly valued for their pleasant flavour, which is entirely lost even by light coction; hence the college direct the syrup, which is the only officinal preparation of them, to be made by infusion.

CARYOPHYLLATA [*Brun.*] *Radix.*

Geum urbanum Lin.

Avens; the root.

Avens is a rough plant found wild in woods and hedges. The root has a warm, bitterish, astringent, taste, and a pleasant smell, somewhat of the clove kind, especially in the spring, and when produced in dry warm soils. Parkinson observes, that such as is the growth of moist soils has nothing of this flavour. This root has been employed as a stomachic, and for strengthening the tone of the viscera in general: it is still in some esteem in foreign countries, though not taken notice of among us. It yields on distillation an elegant odoriferous essential oil, which concretes into a flaky form.

Besides the geum urbanum, another species of the geum, the rivale, has a place in some pharmacopœias, under the title of *Caryophyllata aquatica*. The root of this species, which is larger than the other, is said to be employed by the Indians in South America for the cure of intermittents, and to be equally successful with the Peruvian bark. Dr Withering mentions, that the powder of the root is used for this purpose by the Canadians. But we do not know that with this intention it has been much employed in Britain.

CASCARILLA [*Lond. Ed.*] *Cortex.*

Croton cascarilla Lin.

Cascarilla; the bark.

This bark is imported into Europe from the Bahama islands, and particularly from one of them of the name of Eleuthera; from which circumstance it was long known by the title of Eleutheria. The cascarilla is in general brought to us either in curled pieces, or rolled up into short quills, about an inch in width, somewhat resembling in appearance the Peruvian bark. It is covered on the outside with a rough whitish matter; and in the inside it is of a browniish cast. When broken, it exhibits a smooth close dark brown surface.

This bark, when freed from the outer whitish coat, which is insipid and inodorous, has a light agreeable smell, and a moderately bitter taste, accompanied with a considerable aromatic warmth. It is easily inflammable, and yields when burning a very fragrant smell somewhat resembling that of musk, a property which distinguishes the cascarilla from all other barks. It was first introduced into Europe about the end of the last century, and seems first to have been used in Germany, where it is still in very high esteem. There it is frequently employed against

gainſt common intermittent fevers, in preference to the Peruvian bark, as being leſs ſubject to ſome inconveniencies, which the latter on account of its great aſtringency is apt to occaſion. It is alſo ſaid to have been employed with great ſucceſs in ſome very dangerous epidemic fevers attended with petechiæ: and it is frequently employed with advantage in ſtatulent colics, internal hæmorrhagies, dyſenteries, diarrhœas, and ſimilar diſorders. In Britain it has been uſed by ſome practitioners, particularly by the late Dr Keir of London, who was of opinion that it was by no means employed ſo generally as it deſerved to be.

Its virtues are partially extracted by water, and totally by rectified ſpirit, but it is moſt effectual when given in ſubſtance.

CASSIA FISTULARIS

[*Lond. Ed.*] *Fructus.*

Caſſia fiſtula Lin.

Caſſia of the cane; the fruit.

This is the fruit of an oriental tree reſembling the walnut.

This fruit is a cylindrical pod, ſcarce an inch in diameter; a foot or more in length: the outſide is a hard brown bark; the inſide is divided by thin tranſverſe woody plates, covered with a ſoft black pulp of a ſweetiſh taſte, with ſome degree of acrimony. There are two ſorts of this drug in the ſhops; one brought from the Eaſt-Indies, the other from the Weſt: the canes or pods of the latter are generally large, rough, thick-rinded, and the pulp nauſeous; thoſe of the former are leſs, ſmoother, the pulp blacker, and of a ſweeter taſte; this ſort is preferred to the other. Such pods ſhould be choſen as are weighty, new, and do not make a rattling noiſe (from the ſeeds being looſe within them) when ſhaken. The pulp ſhould be of a bright ſhining black colour, and of a ſweet taſte, not harſh, which happens from the fruit being gathered before it has grown fully ripe, or ſouriſh, which it is apt to turn upon keeping: it ſhould neither be very dry nor very moiſt, nor at all mouldy; which, from its being kept in damp cellars, or moiſtened, in order to increaſe its weight, it is very ſubject to be. Greateſt part of the pulp diſſolves both in water and in rectified ſpirit; and may be extracted from the cane by either. The ſhops employ water, boiling the bruiſed pod therein, and afterwards evaporating the ſolution to a due conſiſtence.

The pulp of caſſia is a gentle laxative medicine, and frequently given, in a doſe of ſome drams, in coſtive habits. Some direct a doſe of two ounces or more as a cathartic, in inflammatory caſes, where the more acrid purgatives have no place: but in theſe large quantities it generally naſeates the ſtomach, produces flatulencies, and ſometimes gripings of the bowels, eſpecially if the caſſia be not of a very good kind: theſe effects may be prevented by the addition of aromatics, and exhibiting it in a liquid form. Geoffroy ſays, it does excellent ſervice in the painful tenſion of the belly, which ſometimes follows the imprudent uſe of antimonials; and that it may be advantageouſly accuated with the more acrid purgatives, or antimonial emetics, or employed to abate their force. Vallisnieri relates, that the purgative virtue of this medicine is remarkably promoted by manna: that a mixture of four drams of caſſia and two of manna, purges as much as twelve drams of caſſia or thirty-two of manna alone. Sennertus obſerves, that the urine is apt to be turned of a green colour by the uſe of caſſia: and

and sometimes, where a large quantity has been taken, blackish. This drug gives name to an officinal electuary, and is an ingredient also in another.

CASSIA LIGNEA [*Ed.*]

Cortex, flores nondum explicatæ.

Laurus cassia Lin.

Cassia; the bark and flowers.

This bark, which is imported from different parts of the East Indies and from China, has a very exact resemblance to the cinnamon, and is obtained from a species of the same genus of tree. It is distinguishable from the cinnamon by being of a thicker and coarser appearance, and by its breaking short and smooth, while the cinnamon breaks fibrous and shivery.

This bark resembles cinnamon still more exactly in its aromatic flavour than in its external appearance, and seems only to differ from it in being somewhat weaker, in abounding more with a viscous mucilaginous matter, and in being less astringent. Accordingly, it has not only a place in the Edinburgh pharmacopœia, but is also the basis of a distilled water. It is perhaps surprising that the London college have given it no place in their lists. But although it does not enter their pharmacopœia, yet we may venture to assert, that it will not be neglected by the apothecaries. At present it is very common with many of them to substitute the cassia in every case for the more expensive article cinnamon: and indeed almost the whole of what is at present sold under the title either of simple or spirituous cinnamon-water, is entirely prepared from cassia, and not even entirely from the bark, but from a mixture of the bark and buds.

CASTOREUM [*Lond. Ed.*]

Castor fiber Lin.

Castor.

Castor appears to be a peculiar fatty deposition found in cells or bags situated near the rectum in the beaver, a four-footed amphibious animal, frequent in several parts of Europe and America. The best comes from Russia: this is in large round hard cods, which appear, when cut, full of a brittle red liver-coloured substance, interspersed with membranes and fibres exquisitely interwoven. An inferior sort is brought from Dantzick; this is generally fat and moist. The worst of all is that of New England, which is in longish thin cods. But of late, some apparently not inferior to the Russian castor, has been brought from Hudson's bay.

Castor has a strong not agreeable smell, and an acrid, biting, bitterish nauseous taste. Water extracts the nauseous part, with little of the finer bitter; rectified spirit extracts this last, without much of the nauseous: proof-spirit both: water elevates the whole of its flavour in distillation; rectified spirit brings over nothing.

Castor is looked upon as one of the capital nervine and antihysteric medicines: some celebrated practitioners have nevertheless doubted its virtues; and Newmann and Stahl declare it insignificant. Experience, however, has shown, that the virtues of castor are considerable, though they are certainly far less than they have been generally supposed to be. Its officinal preparations are of a spirituous tincture, and a compound tincture of castor. It is an ingredient in some other compositions, as the compound powder of myrrh.

CASUMUNAR [*Brun.*]

This is a tuberous root, an inch

or

of more in thickneſs, marked on the ſurface with circles or joints like galangal, of a browniſh or aſh colour on the outſide, and a duſky yellowiſh within; it is brought from the Eaſt-Indies, cut into tranſverſe ſlices: what kind of plant it produces is not known.

Caſumnar has a warm, bitteriſh taſte, and an aromatic ſmell, ſomewhat reſembling that of ginger. It has been celebrated in hyſteric caſes, epilepſies, palſies, loſs of memory, and other diſorders; the preſent practice ſometimes employs it as a ſtomachic and carminative, but it is not ſo much uſed or known as it deſerves to be.

CATECHU, *Vulgo terra Japonica* [*Lond. Ed.*]

Mimoſa catechu Lin.

Catechu; the extract.

This vegetable extract, which has long had, but very improperly, the name of *terra Japonica*, is the product of a plant growing in the Eaſt Indies. A particular account of the vegetable from whence it is obtained, as well as of the method of preparation, was ſome time ago publiſhed by Dr Keir in the London Medical Obſervations. The only earth which it contains, conſiſts entirely of adhering impurities from the furnaces or kilns in which it is prepared. Hence it is with great propriety, that in ſome of the foreign pharmacopœias a ſuccus japonicus depuratus is introduced, although not adopted either by the London or Edinburgh colleges.

The extract of catechu in its pureſt ſtate is a dry and pulveriſable ſubſtance. Outwardly it is of a reddiſh colour, internally of a ſhining dark brown, with a ſlight caſt of red. It is a mild, but at the ſame time a powerful aſtringent. It is more agreeable in taſte than moſt other ſubſtances of that claſs. It leaves in the mouth a kind of ſweetneſs and mucilaginous feel. It may be uſefully employed for moſt purpoſes where an aſtringent is indicated, provided the moſt powerful be not requiſite. But it is particularly uſeful in alvine fluxes; and where theſe require the uſe of aſtringents, we are acquainted with no one equally beneficial. Beſides this, it is employed alſo in uterine profluvia, in laxity and debility of the viſcera in general, in catarrhal affections, and various other diſeaſes where aſtringents are indicated. It is often ſuffered to diſſolve leiſurely in the mouth, as a topical aſtringent for laxities and exulcerations of the gums, for aphthous ulcers in the mouth, and ſimilar affections: And it is in ſome other caſes applied externally both under the form of ſolution and of ointment.

Catechu diſſolves almoſt entirely in water excepting its impurities. But theſe are in general ſo conſiderable in point of quantity, that Dr Lewis computes them to conſtitute one eighth part of the maſs. Of the pure matter, rectified ſpirit diſſolves about ſeven-eighths into a deep red liquor; the part which it leaves undiſſolved is an almoſt inſipid mucilaginous ſubſtance.

Catechu is the baſis of ſeveral fixed formulæ in our pharmacopœias, particularly of a tincture and an electuary: But one of the beſt forms under which it can be exhibited is that of ſimple infuſion in warm water, with a proportion of cinnamon or caſſia; for by this means it is at once freed from its impurities, and improved by the addition of the aromatic.

CENTAURIUM MAJOR *Radix.*

Centaurea centaurium Lin.

Greater centuary; the root.

The greater centuary is a large plant,

plant, cultivated in gardens. The root has a rough somewhat acrid taste, and abounds with a red viscid juice: its rough taste has gained it some esteem as an astringent; its acrimony as an aperient; and its glutinous quality as a vulnerary: the present practice takes little notice of it with any intention.

CENTAURIUM MINUS [*Lond. Ed.*] *Cacumen.*
Gentiana centaurium Lin.
Lesser centaury; the top.

This grows wild in many parts of England, in dry pasture grounds, and amongst corn. The tops are an useful aperient bitter.

CEPA [*Suec.*] *Radix.*
Allium cepa Lin.
Onion; the root.

Onions differ from other bulbous-rooted plants, in having single roots, or such as cannot be parted so as to increase the plant. These roots are considered rather as articles of food than of medicine: they are supposed to afford little or no nourishment, and when eaten liberally produce flatulencies, occasion thirst, headachs, and turbulent dreams: in cold phlegmatic habits, where viscid mucus abounds, they doubtless have their use; as by their stimulating quality they tend to excite appetite, attenuate thick juices, and promote their expulsion: by some they are strongly recommended in suppression of urine and in dropsies. The chief medicinal use of onions in the present practice is in external applications, as a cataplasm for suppurating tumours, &c.

CERA FLAVA [*Lond. Ed.*]
Yellow bees wax.

This is a solid concrete, obtained from the honeycombs after the honey is got out, by heating and pressing them between iron plates. The best sort is of a lively yellow colour, and an agreeable smell, somewhat like that of honey; when new, it is toughish yet easy to break; by age it becomes harder and more brittle, it loses its fine colour, and in great measure its smell.

CERA ALBA [*Lond. Ed.*]
White wax.

White wax is prepared from the yellow, by reducing it into thin flakes, and exposing it for a length of time to the air; when sufficiently bleached, it is melted, and cast into cakes. The best sort is of a clear and almost transparent whiteness, and of a light agreeable smell like that of the yellow wax, but much weaker.

The chief medical use of wax is in cerates, plasters, unguents, &c. as an emolient for promoting suppuration, &c. It readily unites with oils and animal fats, but not with watery or spirituous liquors. It is given also internally in diarrhœas and dysenteries, when mixed with oily substances.

CERASUS [*Suec.*] *Folia, fructus gummi.*
Prunus cerasus Lin.
The cherry; the leaves, fruit, and gum.

Of this fruit a considerable number of varieties are cultivated in our gardens; particularly the sweet cherry with a black juice; the pleasantly-sourish cherry, with a colourless juice; and the very same cherry with a blood red juice; commonly called black, red, and morello cherries.

These fruits, especially the acid sorts, are very useful and agreeable coolers and quenchers of thirst; and are sometimes directed with this intention, in hot bilious, or febrile distempers. Boerhaave was extremely fond of these and the other fruits called *horæi*, as aperients in some

some chronic cases; and declares himself persuaded, that there is no kind of obstruction of the viscera capable of being removed by medicine, which will not yield to the continued use of these. They are rather, however, used as an article of diet or luxury, than in the way of medicine. And accordingly have no place in the London or Edinburgh pharmacopœias.

Besides the fruit of the cherry, the leaves also are now introduced into the Swedish pharmacopœia; but they do not enter any of their fixed formulæ, and we know not for what purpose they are particularly intended.

The gum of the cherry is a pretty pure vegetable mucilage, nearly approaching to gum arabic.

CEREFOLIUM [*Suec.*] *Herba.*

Sandix cerefolium Lin.

Chervil; the plant.

This is a low annual plant somewhat like parsley, commonly cultivated in gardens for culinary purposes. This plant is grateful both to the palate and stomach, gently aperient, and diuretic. Geoffroy assures us, that he has found it from experience to be of excellent service in dropsies; that, in this disorder, it promotes the discharge of urine when suppressed; renders it clear, when feculent and turbid; and when high and fiery, of a paler colour; that it acts mildly without irritation, and tends rather to allay than excite inflammation. He goes so far as to say, that dropsies which do not yield to this medicine, are scarce capable of being cured by any other. He directs the juice to be given in the dose of three or four ounces every fourth hour, and continued for some time, either alone, or in conjunction with nitre and syrup of the five opening roots.

CHALYBS, vide FERRUM.

CHAMÆDRYS [*Suec.*] *Herba.*

Teucrium chamædrys Lin.

Germander; the herb.

This is a low shrubby plant, cultivated in gardens. The leaves, tops, and seeds have a bitter taste, with some degree of astringency and aromatic flavour. They are recommended as sudorific, diuretic, and emmenagogue, and for strengthening the stomach and viscera in general. With some they have been in great esteem in intermittent fevers, and also in scrophulous and other chronic disorders; but at present they are very little in use, and have now no place either in the London or Edinburgh pharmacopœias.

CHAMÆMELUM [*Lond. Ed.*] *Flos simplex.*

Anthemis nobilis Lin.

Chamomile; the single flower.

These have a strong not ungrateful aromatic smell, and a very bitter nauseous taste. They are accounted carminative, aperient, emollient, and in some degree anodyne; and stand recommended in flatulent colics, for promoting the uterine purgations, in spasmodic pains, and the pains of childbed women: sometimes they have been employed in intermittent fevers, and in nephritis. These flowers are frequently also used externally in discutient and antiseptic fomentations, and in emollient glysters: they enter the decoctum pro enemate et decoctum pro fomento of our pharmacopœias. An essential oil was formerly directed to be prepared from them, but it is now omitted. A simple watery infusion of them taken in a tepid state is at present frequently employed to promote the operation of emetics.

CAMÆPITHYS [*Suec.*] *Herba.*

Teucrium chamæpithys Lin.

Ground pine; the herb.

This is a low hairy plant, clammy to the touch, of a ſtrong aromatic reſinous ſmell, and a bitter roughiſh taſte. It is recommended as an aperient and vulnerary, and alſo in gouty and rheumatic pains.

CHEIRI [*Brun.*] *Flos.*

Cheiranthus cheiri Lin.

Wall-flower.

This grows upon old walls and among rubbiſh, in ſeveral parts of England. The flowers have a pleaſant ſmell, and a ſubacrid, bitteriſh, diſagreeable taſte: they are ſaid to to be cordial, anodyne, aperient, and emenagogue, but are wholly neglected by practice.

CHELIDONIUM MAJUS [*Brun.*] *Herba, radix.*

Chelidonium majus Lin.

Celandine: the leaves and root.

This plant grows upon old walls, among rubbiſh, and in waſte ſhady places. The herb is of a blueiſh green colour; the root of a deep red; both contain a gold-coloured juice; their ſmell is diſagreeable; the taſte ſomewhat bitteriſh, very acrid, biting and burning the mouth; the root is the moſt acrid. The juice of celandine has long been celebrated in diſorders of the eyes; but it is too ſharp, unleſs plentifully diluted, to be applied with ſafety to that tender organ. It has been ſometimes uſed, and it is ſaid with good ſucceſs, for extirpating warts, cleanſing old ulcers, and in cataplaſms for the herpes miliaris. This acrimonious plant is rarely given internally; the virtues attributed to it are thoſe of a ſtimulating aperient, diuretic, and ſudorific: it is particularly recommended in the ſlow kind of jaundice, where there are no ſymptoms of inflammation, and in dropſies; ſome ſuppoſe the root to have been Helmont's ſpecific in the hydrops aſcites. Half a dram or a dram of the dry root is directed for a doſe: or an infuſion in wine of an ounce of the freſh root.

CHELIDONIUM MINUS [*Brun.*] *Radix.*

Ranunculus ficaria Lin.

Pilewort; the root.

This is a very ſmall plant, found in moiſt meadows and by hedgeſides: the roots conſiſt of ſlender fibres, with ſome little tubercles among them, which are ſuppoſed to reſemble the hæmorrhoids; from thence it has been concluded, that this root muſt needs be of wonderful efficacy for the cure of that diſtemper: to the taſte, it is little other than mucilaginous: and although ſtill retained in ſeveral of the foreign pharmacopœias, it is hardly in uſe in this country.

CHINA [*Suec.*] *Radix.*

Smilax china Lin.

China root.

This root is brought from the Eaſt Indies. But beſides the oriental china root, there is alſo a root under the ſame name brought from the Weſt Indies, obtained from a different ſpecies of the ſame genus. They are both longiſh, full of joints, of a pale reddiſh colour, of no ſmell, and very little taſte: the oriental, which is the moſt eſteemed, is conſiderably harder and paler coloured than the other. Such ſhould be choſen as is freſh, cloſe, heavy, and upon being chewed appears full of a fat unctuous juice. China root was either unknown or diſregarded by the antient phyſicians. It was firſt introduced into Europe about the year 1535, with the character

racter of a ſpecific againſt venereal and cutaneous diſorders; and as ſuch was made uſe of for ſome time, but at length gave place to medicines of a more powerful kind. It is generally ſuppoſed to promote inſenſible perſpiration and the urinary diſcharge; and by its unctuous quality to obtund acrimonious juices.

CICHOREUM [*Suec.*] *Radix, herba.*

Cichoreum intybus Lin.

Wild ſuccory; the roots and herb.

The root has a moderately bitter taſte, with ſome degree of roughneſs; the leaves are ſomewhat leſs bitter: the roots, ſtalks, and leaves yield, on being wounded, a milky ſaponaceous juice. By culture this plant loſes its green colour and its bitterneſs, and in this ſtate is employed in ſalads: the darker coloured and more deeply jagged the leaves, the bitterer is their taſte. Wild ſuccory is an uſeful detergent, aperient, and attenuating medicine; acting without much irritation, tending rather to cool than to heat the body, and at the ſame time corroborating the tone of the inteſtines. The juice taken in large quantities, ſo as to keep up a gentle diarrhœa, and continued for ſome weeks, has been found to produce excellent effects in cutaneous affections and other chronical diſeaſes.

CICUTA [*Lond. Ed.*] *Herba, flos, ſemen.*

Conium maculatum Lin.

Hemlock; the leaves, flower, and ſeed.

This is a large umbelliferous plant, common about the ſides of fields, under hedges, and in moiſt ſhady places: the leaves are winged, divided into a great number of ſmall fern like ſections, of a dark or blackiſh green colour, and appearing as it were rough; the ſtalk is hollow (as is likewiſe great part of the root after the ſtalk has ariſen), and ſpotted with ſeveral blackiſh, red, or purple ſpots. Hemlock is ſometimes applied externally in the form of decoction, infuſion, or poultice, as a diſcutient. Theſe are apt to excoriate, and their vapour is to ſome particularly diſagreeable and hurtful. The ſtalks are inſignificant, and the roots very virulent. With regard to its virtue when taken internally, it has been generally accounted poiſonous; which it doubtleſs is, in a high degree, when uſed in any conſiderable quantity. But Dr Stoerk has lately found, that in certain ſmall doſes it may be taken with great ſafety; and that, without at all diſordering the conſtitution, or even producing any ſenſible operation, it ſometimes proves a powerful reſolvent in many obſtinate diſorders. In ſcirrhus, the internal and external uſe of hemlock has been found uſeful, but then mercury has been generally uſed at the ſame time. In open cancer, it often abates the pains, and is free from the conſtipating effects of opium. It is likewiſe uſed in ſcrophulous tumours and ulcers, and in other ulcers that are only defined by the term ill conditioned. It is alſo recommended by ſome in chincough, and various other diſeaſes. Its common, and perhaps beſt form, is that of the powdered leaves, in the doſe at firſt of two or three grains a-day, which in ſome caſes has been gradually increaſed to upwards of two ounces a-day, without producing giddineſs. An extract from the ſeeds is ſaid to produce giddineſs ſooner than that from the leaves. Hence, while both the London and Edinburgh colleges have given a place to the ſuccus ſpiſſatus cicutæ, into the pharmacopœia of the latter an extrac-

tum ſeminum cicutæ is alſo introduced.

CINARA [*Lond. Ed.*] *Folium.*
Cynara ſcolymus Lin.
Artichoke; the leaves.

The artichoke is a large rough plant, with greyiſh leaves, which is well known in our gardens, as being very commonly cultivated for culinary purpoſes. The leaves are bitter; and on being preſſed give out their bitterneſs along with their juice. This expreſſed juice is given in dropſies, and in ſome inſtances has proved ſucceſsful after other medicines have failed. For this purpoſe, the expreſſed juice paſſed only through a coarſe ſtrainer, is mixed with an equal quantity of white wine, and of this mixture two or three table ſpoonfuls are taken every morning and evening. It operates by promoting diureſis. For this purpoſe, an infuſion of the leaf is alſo uſed; and both the leaves and ſtalks enter into many of the diuretic decoctions uſed by the country people.

CINNABARIS NATIVA [*Brun.*]
Native cinnabar.

This is a ponderous mineral of a red colour, found in Spain, Hungary, and ſeveral other parts of the world. The fineſt ſort is in pretty large maſſes, both externally and internally of an elegant deep red colour, which is much improved upon grinding the maſs into fine powder; There is another ſort, of a good colour, in roundiſh drops, ſmooth, without, and ſtriated within.

This mineral appears from chemical experiments to be compoſed of mercury and ſulphur, in ſuch a manner, that the quantity of the former is commonly above ſix times greater than that of the latter: the finer the colour of the cinnabar, the more mercury it is found to hold. Native cinnabar has been by many preferred as a medicine to that made by art: but there does not appear to be any juſt foundation for this preference. The native has ſometimes been obſerved to occaſion nauſea, vomiting, and anxiety: theſe probably proceeded from an admixture of ſome arſenical particles which it could not be freed from by repeated ablution. When pure, it has no quality or medical virtue diſtinct from thoſe of the artificial cinnabar, now ſtyled *Hydrargyrus ſulphurātus ruber*, and afterwards to be mentioned among the mercurial preparations.

CINERES CLAVELLATI [*Lond.*]
Kali impurum.
Ruſſia potaſh.

Potaſh is an impure alkaline ſalt, produced from all land plants, except the tetradynamia claſs, by burning with a cloſe ſmothering heat. In this ſtate they are called weed aſhes, which contain, beſides alkali, charcoal, ſulphur, and a little vitriolated tartar. Theſe foreign matters are partly ſeparated, by mixing the aſhes with water, and paſſing it through a veſſel with holes at the bottom covered with ſtraw. It is then evaporated to the conſiſtence of honey, and afterwards burnt in an oven, from which it acquires a little ſtony matter. In this ſtate, from its colour, it is called pearl aſhes, the *ſal alcalinus fixus vegetabilis* [*Ed.*] If lime be mixed with the aſhes, and paſſed through the veſſel as before, the alkali is conſiderably deprived of its fixed air, is conſequently cauſtic, has a darker colour, and gives a reddiſh ſolution, having diſſolved ſome of the iron of the pot it is prepared

pared in, and from which it is called potaſh. Large quantities of it are brought to us from America, Ruſſia, and other places. Other kinds of impure vegetable alkali appear in commerce, under the names of caſhub, marcoſt aſhes, &c.

CINNAMOMUM [*Lond. Ed.*] *Cortex et ejus oleum eſſentiale.*
Laurus cinnamomum Lin.
Cinnamon; the bark and its eſſential oil.

This is a light thin bark, of a reddiſh colour, rolled up in long quills or canes; of a fragrant delightful ſmell, and an aromatic, ſweet, pungent taſte, with ſome degree of aſtringency. It is generally mixed with the caſſia bark: this laſt is eaſily diſtinguiſhable by its breaking ſmooth, while cinnamon ſplinters; and by its ſlimy mucilaginous taſte, without any thing of the roughneſs of the true cinnamon. Cinnamon is a very elegant and uſeful aromatic, more grateful both to the palate and ſtomach, than moſt other ſubſtances of this claſs: by its aſtringent quality it likewiſe corroborates the viſcera, and proves of great ſervice in ſeveral kinds of alvine fluxes, and immoderate diſcharges from the uterus. An eſſential oil, a diſtilled water, a diſtilled ſpirit, and a tincture of it, are directed to be kept in the ſhops; but theſe are much more frequently prepared from caſſia than from cinnamon; and in thoſe formulæ in which diſtillation is employed, the difference is perhaps not very material: but whether it be exhibited under the form of powder or infuſion, aſtringency is only to be looked for from the genuine cinnamon; and this is often required where it is employed as a ſpicy ingredient in a great number of compoſitions.

CITRULLUS [*Brun.*] *Semen.*
Cucurbita citrullus Lin.
Citruls; the ſeed.

This plant is rarely met with among us, unleſs in botanic gardens. The ſeeds are in the number of the four greater cold ſeeds, and agree in quality with the others of that claſs.

CITRUS [*Suec.*] *Corticis flavedo, oleum, ſuccus.*
Citrus medica Lin.
Citron; the yellow rind, oil, and juice.

The citron is an evergreen tree, or ſhrub, of the ſame genus with the orange and lemon: it was firſt brought from Aſſyria and Media, (whence the fruit is called *mala Aſſyria, mala Medica*) into Greece, and thence into the ſouthern parts of Europe, where it is now cultivated. Citrons are rarely made uſe of among us: they are of the ſame quality with lemons, except that their juice is ſomewhat leſs acid. They enter, however, a conſiderable number of formulæ in ſeveral of the foreign pharmacopœias, and with us are frequently employed as a condiment.

COCCINELLA [*Lond. Ed.*]
Coccus cacti Lin.
Cochineal.

This is a ſmall, irregular, roundiſh body, of a dark red colour on the outſide, and a deep bright red within: it is brought from Mexico and New Spain. This ſubſtance was long ſuppoſed to be the ſeed of a plant; but it appears from chemical experiments to be an animal, and from the accounts of the more celebrated naturaliſts, an inſect, which breeds on the American prickly-pear tree, and adheres thereto without changing its place. Cochineal has been ſtrongly recommended as a ſudorific, cardiac, and alexipharmac;

mac; but practitioners have never observed any considerable effects from it. Its greatest consumption is among the scarlet dyers; and in medicine its principal use is as a colouring drug: both watery and spirituous liquors extract its colour. In the London and Edinburgh pharmacopœias, some of the tinctures receive from this drug a fine red colour.

COCHLEARIA HORTENSIS [*Lond. Ed.*] *Folia.*
Cochlearia officinalis Lin.
Garden scurvy-grass; the leaves.

COCHLEARIA MARINA, *Folia.*
Cochlearia anglica Lin.
Sea scurvy-grass; the leaves.

These plants have little other difference, as to their external appearance, than that expressed in their titles; in taste and medical virtue, the first is considerably the strongest; and hence is alone retained both by the London and Edinburgh colleges; but where either is employed, the latter, collected on our seacoasts, is perhaps most frequently used.

Scurvy-grass is a pungent stimulating medicine; capable of dissolving viscid juices, opening obstructions of the viscera and the more distant glands, and promoting the fluid secretions: it is particularly celebrated in scurvies, and is the principal herb employed in these kinds of disorders in the northern countries.

COFFEA [*Brun.*] *Semen.*
Coffea Arabica Lin.
Coffee; the fruit.

Coffee is the fruit of an oriental shrub now cultivated in the West Indies. This fruit is employed rather as food than as a medicine. The medical effects expected from it are to assist digestion, promote the natural secretions, and prevent or remove a disposition to sleepiness. It has been recommended in spasmodic asthma; and in some cases it is found highly useful in alleviating severe head-ach.

COLCHICUM [*Lond. Ed.*] *Radix.*
Colchicum autumnale Lin.
Meadow saffron; the root.

This plant grows wild in meadows, in the more temperate parts of Europe. The roots, freed from the outer blackish coat and fibres below, are white, and full of a white juice. In drying they become wrinkled and dark coloured. Applied to the skin, it shews some kind of acrimony; and taken internally, it is said sometimes to excite a sense of burning heat, bloody stools, and other violent symptoms. In the form of syrup, however, it has been given to the extent of two ounces a-day without any bad consequence. It is sometimes employed as a diuretic in dropsy.

From its great activity it was long ranked among the poisonous vegetables; but from this circumstance it claimed the attention of Dr Stoerk of Vienna, who made it the subject of many experiments. According to his account, the recent root taken in substance, even to a very small extent, produces alarming effects; but he found that an oxymel prepared from it might be used with safety, and proved a powerful diuretic. Since his publication it has been a good deal used by other practitioners; but it has by no means supported the character which he gave of it, even when employed in much larger doses than Dr Stoerk seems to have exhibited. On some occasions, however, it operates as a powerful diuretic; and accordingly it is not only

only introduced into moſt of the modern pharmacopœias, but is alſo the baſis of different formulæ. The London college, in imitation of the original preſcription of Dr Stoerk, have introduced into their pharmacopœia an oxymel colchici; but the Edinburgh college, from an objection to honey, which with ſome people is apt to excite violent colic pains, have ſubſtituted to this a ſyrupus colchici; in which, however, nearly the ſame proportions are retained, ſugar being merely employed in place of honey. This ſyrup, in place of two or three drams merely, has been given to the extent of two or three ounces in a day, in general without any inconvenience, and ſometimes with good effects: but like the other diuretics, it cannot be depended upon.

COLOCYNTHIS [*Lond. Ed.*]

Fructus medulla.

Cucumis colocynthis Lin.

Coloquintida, or bitter apple; the medullary part of the fruit.

This is the produce of a plant of the gourd kind, growing in Turkey. The fruit is about the ſize of an orange; its medullary part, freed from the rind and ſeeds, is alone made uſe of in medicine: this is very light, white, ſpongy, compoſed of membraneous leaves; of an extremely bitter, nauſeous, acrimonious taſte. Colocynth is one of the moſt powerful and moſt violent cathartics. Many eminent phyſicians condemn it as dangerous, and even deleterious: others recommend it not only as an efficacious purgative, but likewiſe as an alterative in obſtinate chronical diſorders. This much is certain, that colocynth, in the doſe of a few grains, acts with great vehemence, diſorders the body, and ſometimes occaſions a diſcharge of blood. Many attempts have been made to correct its virulence by the addition of acids, aſtringents, and the like; theſe may leſſen the force of the colocynth, but no otherwiſe than might be equally done by a reduction of the doſe. The beſt method of abating its virulence, without diminiſhing its purgative virtue, ſeems to be by triturating it with gummy farinaceous ſubſtances, or the oily ſeeds, which, without making any alteration in the colocynth itſelf, prevent its reſinous particles from cohering, and ſticking upon the membranes of the inteſtines, ſo as to irritate, inflame, or corrode them. It is an ingredient in ſome of the purgative pills, and the cathartic extracts of the ſhops, particularly of the extractum colocynthidis compoſitum, and pilulæ ex colocynthide cum aloe.

COLOMBA [*Lond. Ed.*] *Radix.*

Colomba; the root.

The botanical characters of the vegetable from whence this root is obtained are not yet aſcertained. It is brought from Colombo in Ceylon in the form of knobs, having a rough ſurface, and conſiſting of a cortical, woody, and medullary lamina. It has a diſagreeably bitter taſte, an aromatic flavour; in experiment is conſiderably antiſeptic, and particulary effectual in correcting and preventing the putridity of bile. Abroad it is much uſed in diſeaſes attended with bilious ſymptoms, particularly in cholera; and is ſaid to be ſometimes very effectual in other caſes of vomiting. Some conſider it as very uſeful in dyſpepſia. Half a dram of the powder is given repeatedly in the day. Water is not ſo complete a menſtruum as ſpirits, but to their united action it yields a flavoured extract in very conſiderable quantity. Its uſe in medicine has been par-

particularly recommended to the attention of practitioners by Dr Percival of Manchester in his Experimental Essays; and it has in general been found to answer expectation: but it is to be regretted, that it is not so regularly imported as to admit of our shops being supplied with it of good quality. Hence when prescribed it is often exhibited in a very decayed state.

CONSOLIDA [*Suec.*] *Radix.*
Symphytum officinale Lin.
Comfrey; the root.

This is a rough hairy plant, growing wild by river-sides and in watery places. The roots are very large, black on the out-side, white within, full of a viscid glutinous juice, of no particular taste. They agree in quality with the roots of althea; with this difference, that the mucilage of *consolida* is somewhat stronger bodied. Many ridiculous histories of the consolidating virtues of this plant are related by authors. At present it is so little employed in practice in Britain, as to have no place in our pharmacopœias.

CONTRAYERVA [*Lond. Ed.*] *Radix.*
Dorstenia contrayerva Lin.
Contrayerva; the root.

This is a knotty root, an inch or two in length, about half an inch thick, of a reddish brown colour externally, and pale within: long, tough, slender fibres shoot out from all sides of it; these are generally loaded with small round knots. This root is of a peculiar kind of aromatic smell, and a somewhat astringent, warm, bitterish taste, with a light and sweetish kind of acrimony when long chewed: the fibres have little taste or smell; the tuberous part therefore should be alone chosen. Contrayerva is one of the mildest of those substances called alexipharmacs: it is indisputably a good and useful diaphoretic, and may be safely given in much larger doses than the common practice is accustomed to exhibit it in. Its virtues are extracted both by water and rectified spirit, and do not arise in evaporation with either: the spirituous tincture and extract taste stronger of the root than the aqueous ones.

CONVALLARIA [*Ed.*] *Radix.*
Convallaria polygonatum Lin.
Solomon's seal; the roots.

The root of this common plant contains a sweetish mucilage, and has been used in form of poultice in inflammations; but whether this or any other is better than the common poultice of bread and milk is doubtful. A decoction of this root in milk has also been mentioned in certain cases of hæmorrhagy. The flowers, berries, and leaves, are said to be poisonous.

COPAL [*Brun.*] *Resina.*
Rhus copallinum Lin.
Copal.

Copal, supposed by some a mineral substance, appears to be a resin obtained from several sorts of large trees growing in New Spain. This resin is brought to us in irregular lumps, some transparent, of a yellowish or brown colour, others semitransparent and whitish. It has never come into use as a medicine; and is rarely met with in the shops, but it is introduced into some of the foreign pharmacopœias, and may be considered as an article well deserving attention.

CORALLINA [*Brun.*]
Corallina officinalis Lin.
Coraline, or sea-moss.

This is a branched cretaceous substance

ſtance of a white colour, the habitation and production of polypi, growing on rocks, and ſometimes on the ſhells of fiſhes. It is celebrated as a vermifuge, on what foundation is very doubtful: to the taſte it is entirely inſipid, and probably operates only as an abſorbent earth.

CORRALIUM RUBRUM [*Lond.*]

Iſis nobilis Lin.

Red coral.

This is alſo a marine production, of the ſame nature with the foregoing. It cannot reaſonably be looked upon in any other light than as a mere abſorbent; as ſuch it enters the officinal crabs-claw powder, and is ſometimes in practice directed by itſelf; but it is ſo little employed, and of ſo little activity, that the Edinburgh college have with juſtice rejected it from their liſt.

CORIANDRUM [*Lond. Ed.*]

Semen.

Coriandrum ſativum Lin.

Coriander; the ſeed.

Coriander is an umbelliferous plant, differing from all the others of that claſs in producing *ſpherical* ſeeds. Theſe, when freſh, have a ſtrong diſagreeable ſmell, which improves by drying, and becomes ſufficiently grateful; they are recommended as carminative and ſtomachic. They were formerly an ingredient in the officinal compound lime-water and electuary of bayberries; but both theſe formulæ are now rejected.

CORNU CERVI [*Lond.*]

The ſtag or hart's horns.

Many extraordinary virtues have been attributed to theſe horns, and to all the parts of the animal in general: but experience gives no countenance to them; nor do they ſeem to have any other foundation than the great timidity of the hart, the annual renewal of his horns, and an opinion of his extraordinary longevity. From theſe circumſtances it was inferred, that all the parts of him muſt be proper for intimidating the enraged Archeus, renewing health and ſtrength, and prolonging life. They are to be conſidered as of the ſame nature with bones; and their products by heat are thoſe of animal ſubſtances in general. As ſuch they were at one time ſo much employed for yielding the volatile alkali, that they even gave a name to that article.

The horns boiled in water, give out an emollient nutritious gelly. Burnt to whiteneſs, they yield an earth, employed in the officinal white decoction, or as it is now more properly ſtyled, the *Decoctum cornu cervi.*

COTULA FŒTIDA [*Brun.*]

Folia.

Anthemis cotula.

Mayweed, or wild chamomile.

This plant is common among corn, and in waſte places. In appearance it reſembles ſome of the garden chamomiles, but is eaſily diſtinguiſhable from them by its ſtrong fetid ſcent. It is rarely or never uſed in the preſent practice.

CRETA [*Lond.*]

White chalk.

This is an earth ſoluble in vinegar and the lighter acids, ſo as to deſtroy every ſenſible mark of their acidity. This earth is one of the moſt uſeful of the abſorbents, and is to be looked upon ſimply as ſuch: the aſtringent virtues which ſome attribute to it, have no foundation, unleſs in ſo far as the earth is ſatiated with acid, with which it compoſes a ſaline concrete manifeſtly ſubaſtringent. It gives name to an officinal mixture, a powder, and potion,

potion, and is an ingredient in the cardialgic troches. It is employed alſo for extricating the volatile ſalt of ſal ammoniac.

CROCUS [*Lond.*] *Floris ſtigma.*

Crocus ſativus Lin.

Saffron; the ſtigmata.

Theſe ſtigmata, or fleſhy capillaments, growing at the end of the piſtil of the flower, are carefully picked and preſſed together into cakes.

There are three ſorts of ſaffron met with in the ſhops, two of which are brought from abroad, the other is the produce of our own country; this laſt is much ſuperior to the two former, from which it may be diſtinguiſhed by its blades being broader. When in perfection it is of a fiery orange red colour, and yields a deep yellow tincture: it ſhould be choſen freſh, not above a year old, in cloſe cakes, neither dry, nor yet very moiſt, tough and firm in tearing, of the ſame colour within as without, and of a ſtrong, acrid, diffuſive ſmell.

Saffron is a very elegant and uſeful aromatic; beſides the virtues which it has in common with all the bodies of that claſs, it has been alleged that it remarkably exhilarates, raiſes the ſpirits, and is deſervedly accounted one of the higheſt cordials; taken in large doſes, it is ſaid to occaſion immoderate mirth, involuntary laughter, and the ill effects which follow from the abuſe of ſpirituous liquors. This medicine is ſaid to be particularly ſerviceable in hyſteric depreſſions, or obſtruction of the uterine ſecretions, where other aromatics, even thoſe of the more generous kind, have little effect. Saffron imparts the whole of its virtue and colour to rectified ſpirit, proof ſpirit, wine, vinegar, and water: a tincture drawn with vinegar, loſes greatly of its colour in keeping: the watery and vinous tinctures are apt to grow ſour, and then loſe their colour alſo: that made in pure ſpirits keeps in perfection for many years. Its officinal preparations are, a ſpirituous tincture and ſyrup. It is an ingredient in the cordial confection, paregoric elixir, and ſeveral of the aloetic compoſitions; but of late years, the eſtimation in which it was held as a medicine has been rather on the decline. Some experiments made by Dr Alexander ſerve to ſhew that it is much leſs powerful than was once imagined; and it was lately given in the Edinburgh Infirmary by Dr Henry Cullen, even to the extent of half an ounce a-day, in ſeveral hyſterical caſes, without any ſenſible effect whatever.

CUBEBA [*Lond. Ed.*]

Piper cubeba Lin.

Cubebs.

Cubebs are a fruit brought from the Eaſt Indies. This fruit has a great reſemblance to pepper. The principal difference diſtinguiſhable by the eye, is that each cubeb is furniſhed with a long ſlender ſtalk (whence they are called by ſome *piper caudatum.*) In aromatic warmth and pungency, cubebs are far inferior to pepper. They were formerly an ingredient in mithridate and theriaca; but they do not now enter any of the fixed formulæ of our pharmacopœias.

CUCUMIS HORTENSIS *Semen.*

Cucumis ſativus Lin.

Garden cucumbers; the ſeeds.

Theſe are in the number of the four greater cold ſeeds; they are leſs apt to grow rancid in keeping than the others of that claſs.

CUCUMIS AGRESTIS [*L.*]
Fructus recens.
Momordica elaterium Lin.
Wild cucumber; the fruit.

This plant, found wild in foreign countries, is with us cultivated in gardens. Its principal botanic difference from the former, is the smallness of its fruit, which is no bigger than a Spanish olive: when ripe, it bursts on a little touch, and sheds its seeds with violence, and hence was named by the Greeks *elaterium*. This name is applied likewise to the fecula of the juice of the fruit, the only preparation of the plant made use of in medicine. The juice, on standing, separates into the fecula, which falls to the bottom, and a watery fluid swims above. The clear part may be decanted off, and the rest of the liquid drained off by cotton threads hung over the sides of the vessel acting like syphons. The fecula may be farther dried by the sun, or a slow heat; and in this dry state it has the name of *elaterium*. Elaterium is a strong cathartic, and very often operates also upwards. Two or three grains are accounted in most cases a large dose. Simon Pauli relates some instances of its good effects in dropsies; but cautious practitioners ought not to have recourse to it till after milder medicines have proved ineffectual; to which caution we heartily subscribe. Medicines indeed in general, which act with violence in a small dose, require the utmost skill to manage them with any tolerable degree of safety: to which may be added, that the various manners of making these kinds of preparations, as practised by different hands, must needs vary their power. But of late, the elaterium has not been unfrequently employed in obstinate cases of dropsy with success; and when exhibited in doses of only half a grain, repeated at short intervals till its operation commences, it is in general sufficiently moderate in its effects.

CUCURBITA [*Suec.*] *Semen.*
Cucurbita lagenaria Lin.
The gourd; the seeds.

These are in the number of the four greater cold seeds. They unite with water by trituration into an emulsion, and yield to the press a soft insipid oil, and possess the general virtues of unctuous substances.

CUMINUM [*Lond. Ed.*] *Semen.*
Cuminum cyminum Lin.
Cummin; the seed.

The cummin is an umbelliferous plant, in appearance resembling fennel, but much smaller. The seeds used in Britain are brought chiefly from Sicily and Malta. Cummin seeds have a bitterish warm taste, accompanied with an aromatic flavour, not of the most agreeable kind. An essential oil is obtained from them by distillation, in which their activity is concentrated; and they are not unfrequently used externally, giving a name both to a plaster and cataplasm.

CUPRUM [*Lond*]
Cuprum nativum Lin.
Copper.

Copper is one of the metals often used for different purposes in arts; found both in Britain, and in most other countries of Europe. It has never been used as a medicine in its proper metallic form; but it is readily acted upon by all saline substances, both by acids, alkalies, and neutrals; and it is even corroded by moisture.

Most of these preparations of copper are violently emetic, and therefore very rarely exhibited internally. Some have ventured upon

a solution of a grain or two of the metal in vegetable acids, and observe, that it acts almost as soon as received into the stomach, so as to be of great use for occasioning poisonous substances that have been swallowed, to be immediately thrown up again. Boerhaave recommends a saturated solution of this metal in volatile alkaline spirits, as a medicine of great service in disorders proceeding from an acid, weak, cold, phlegmatic cause: if three drops of this tincture be taken every morning with a glass of mead, and the dose doubled every day to twenty-four drops, it proves, he says, aperient, attenuating, warming, and diuretic; he assures us, that by this means he cured a confirmed ascites, and that the urine run out as from an open pipe; but at the same time he acknowledges, that upon trying the same medicine on others, it failed him. He likewise recommends other preparations of copper, as of wonderful efficacy in certain kinds of ill habits, weakness of the stomach, &c. but we cannot think the internal use of this metal advisable in ordinary cases, which can be combated by other means. Physicians in general seem to be agreed, that it has really a virulent quality; and too many examples are met with of fatal consequences ensuing upon eating food which had been dreſt in copper vessels not well cleansed from the rust which they had contracted by lying in the air.

Great care ought to be taken that acid liquors, or even water, designed for internal use, be not suffered to stand long in vessels made of copper; otherwise they will dissolve so much of this metal as will give them disagreeable qualities. Hence in the distillation of simple waters with copper stills, the last runnings, which are manifestly acid, have frequently proved emetic. It is remarkable, that whilst weak acid liquors are kept boiling in copper vessels, they do not seem to dissolve any of the metal; but if suffered to remain in them for the same length of time without boiling, they become notably impregnated with the copper. Hence the confectioners, by skilful management, prepare the most acid syrups in copper vessels, without giving them any ill taste from the metal. But although copper be thus dangerous, some preparations of it are in certain cases used with great advantage both externally and internally.

The chief preparations of copper are, the blue vitriol, verdegris, and cuprum ammoniacum; but the London college have given a place only to the two former. The blue vitriol is recommended by some as an useful emetic, particularly in cases of incipient phthisis with a view of resolving tubercles. It is sometimes employed as an astringent and escharotic; and verdegris is used in form of ointment in certain ulcerations, in cases of tinea capitis and the like. The cuprum ammoniacum, though it has no place in the pharmacopœia of the London college, we consider to be a very active and powerful medicine; and it has produced a perfect cure in some instances of epilepsy.

CURCUMA [*Lond. Ed.*] *Radix.*

Curcuma longa Lin.

Turmeric; the root.

Turmeric is a root brought from the East Indies, where it is used not only in medicine, but for colouring and seasoning food, as rice. It is internally of a deep lively yellow or saffron colour, which it readily imparts to watery liquors. It has

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an agreeable, weak ſmell, and a bitteriſh ſomewhat warm taſte. Turmeric is eſteemed aperient and emmenagogue, and of ſingular efficacy in the jaundice. It tinges the urine of a ſaffron colour.

CURSUTA [*Ed.*] *Radix.*

Gentiana purpurea Lin.

Curſuta; the root.

The foreign root ſold under this name was introduced into the laſt edition of the Edinburgh pharmacopœia, but perhaps without ſufficient grounds; and accordingly it has not found a place in the liſt of any other college. It is now believed, that what has had the name of curſuta, is the root of the purple gentian: but what is uſually ſold under that title in our ſhops cannot, either by its appearance, taſte, or other ſenſible qualities, be diſtinguiſhed from the common gentian, the root of the gentiana lutea, afterwards to be mentioned. And as far as the medical properties of the curſuta have been aſcertained, they are preciſely the ſame with thoſe of gentian.

This foreign root has a very bitter taſte, and is uſed in dyſpepſia.

CYANUS [*Brun.*] *Flores.*

Centaurea cyanus Lin.

Bluebottle; the flowers.

This is a common weed among corn. The flowers are of an elegant blue colour, which, if carefully and haſtily dried, they retain for a conſiderable time. As to their virtues, the preſent practice expects not any from them; notwithſtanding they have been formerly celebrated againſt the bites of poiſonous animals, contagious diſeaſes, palpitations of the heart, and many other diſtempers.

CYDONIUM MALUM [*Lond. Ed.*] *Fructus, ſemen.*

Pyrus cydonia Lin.

The quince; its fruit and ſeeds.

Quinces have a very auſtere acid taſte: taken in ſmall quantity, they are ſuppoſed to reſtrain vomiting and alvine fluxes; and more liberally to looſen the belly. The ſeeds abound with a mucilaginous ſubſtance of no particular taſte, which they readily impart to watery liquors: an ounce will render three pints of water thick and ropy like the white of an egg. A mucilage of the ſeeds is kept in the ſhops. A ſyrup of the fruit had formerly a place, but it is now rejected.

CYNOGLOSSUS [*Brun.*] *Radix.*

Cynogloſſus officinalis Lin.

Hound's tongue; the root.

The leaves of this plant are thought to reſemble a dog's tongue, whence its name; they are clothed with a whitiſh down: it grows wild in ſhady lanes. The roots have a rank diſagreeable ſmell, and rough bitteriſh taſte, covered with a glutinous ſweetneſs. The virtues of this root are very doubtful: it is generally ſuppoſed to be narcotic, and by ſome to be virulently ſo: others declare, that it has no virtue of this kind, and look upon it as a mere glutinous aſtringent. The preſent practice takes no notice of it with any intention.

CYNOSBATUS [*Lond.*] *Fructus.*

Roſa canina Lin.

Dog-roſe; the fruit called hips.

This buſh grows wild in hedges throughout England. The flowers have a pleaſant ſmell; but ſo weak, that Parkinſon and others have named the plant *Roſa ſylveſtris inodora:* a water diſtilled from them ſmells agreeably. The fruit or hips contain a ſouriſh ſweetiſh pulp; with a rough prickly matter incloſing the

ſeeds

seeds, from which the pulp ought to be carefully separated before it be taken internally: the Wirtemberg college observes, that from a neglect of this caution, the pulp of hips sometimes occasions a pruritus and uneasiness about the anus; and the conserve of it has been known to excite violent vomiting. The conserve is the only officinal preparation of this fruit. And as it is not supposed to possess any particular medical virtue, but is merely used to give form to other articles, the Edinburgh college have perhaps, without any material disadvantage, entirely omitted it.

CYPERUS [*Brun.*] *Radix.*
Cyperus longus Lin.
Cyperus; the root.

This is a plant of the graminifolious kind; it is sometimes found wild, in marshy places in England; the roots are generally brought to us from Italy. This root is long, slender, crooked, and full of knots; outwardly of a dark brown, or blackish colour, inwardly whitish; of an aromatic smell, and an agreeable warm taste: both the taste and smell are improved by moderate exsiccation. Cyperus is accounted a good stomachic and carminative, but at present very little regarded.

DACTYLUS [*Brun.*] *Fructus.*
Phœnix dactylifera Lin.
The date; the fruit.

Dates are imported into Britain in the state of a half-dried fruit, about the shape of an acorn, but generally larger, consisting of a sweet pulpy part, and a hard stone: the best are brought from Tunis. They were formerly used in pectoral decoctions; and supposed, besides their emollient and incrassating virtue, to have a slight astringency.

DAUCUS CRETICUS [*Brun.*] *Semen.*
Athamanta Cretensis Lin.
Candy carrot; the seeds.

This is an umbelliferous plant, growing wild in the Levant and the warmer parts of Europe. The seeds, which are brought from Crete, have a warm biting taste, and not a disagreeable aromatic smell. They are carminative, and said to be diuretic, but at present little used.

DAUCUS SYLVESTRIS [*Lond. Ed.*] *Semen.*
Daucus carota Lin.
Wild carrot; the seed.

This is common in pasture grounds and fallow fields throughout England. The seeds possess the virtues of those of the *daucus creticus*, in an inferior degree; and have often supplied their place in the shops, and been themselves supplied by the seeds of the garden carrot: these last are in warmth and flavour the weakest of the three: the seeds of the candy carrot are much the strongest.

DENS LEONIS, vide TARAXACUM.

DICTAMNUS ALBUS [*Ed.*] *Radix.*
Dictamnus albus Lin.
White or bastard dittany; the root.

This plant grows wild in the mountainous parts of France, Italy, and Germany. From thence the cortical part of the root, in a dry state, rolled up in little quills, is sometimes brought to us. It is of a white colour, of a weak not very agreeable smell, and of a durable bitter lightly pungent taste. It has been recommended as an alexipharmac, a tonic, and an anthelmintic; but it is very seldom used, and has

no

no place in the London pharmacopœia.

DICTAMNUS CRETICUS [*Suec.*] *Folia.*

Origanum dictamnus Lin.

Dittany of Crete; the leaves.

This is a kind of origanum said to grow plentifully in the island of Candy, in Dalmatia, and in the Morea: it has been found hardy enough to bear the ordinary winters of our own climate. The leaves, which are the only part in use with us, come from Italy. The best sort are well covered over with a thick white down, and now and then intermixed with purplish flowers. In smell and taste, they somewhat resemble lemon thyme; but have more of an aromatic flavour, as well as a greater degree of pungency; when fresh, they yield a considerable quantity of an excellent essential oil. But they have now no place either in the London or Edinburgh pharmacopœias.

DIGITALIS [*Lond. Ed.*] *Herba.*

Digitalis purpurea Lin.

Fox-glove; the plant.

This grows wild in woods, and on uncultivated heaths: the elegant appearance of its purple flowers (which hang in spikes along one side of the stalk) has gained it a place in some of our gardens. The leaves have been strongly recommended, externally, against scrophulous tumours; and likewise internally, in epileptic disorders: what service they may be capable of doing in these cases is not ascertained by accurate experiment. Several examples are mentioned by medical writers of their occasioning violent vomiting, hypercarthasis, and disordering the whole constitution; insomuch that Boerhaave accounts them poisonous. The taste is bitter, and very nauseous.

Digitalis, however, has lately been employed with great success in other diseases. A treatise has lately been published by Dr Withering, professedly on the subject of its use in medicine; and containing many important and useful observations.

An infusion of two drams of the leaf in a pint of water, given in half-ounce doses every two hours or so, till it begin to puke or purge, is recommended in dropsy, particularly that of the breast. It is said to have produced an evacuation of water so copious and sudden, in ascites, by stool and urine, that the compression of bandages was found necessary. The plentiful use of diluents is ordered during its operation. The remedy, however, is inadmissible in very weakly patients. But besides being given in infusion, it has also been employed in substance. And when taken at bed-time to the extent of one, two, or three, grains of the dried powder, it often in a short time operates as a very powerful diuretic, without producing any other evacuation. Even this quantity, however, will sometimes excite very severe vomiting, and that too occurring unexpectedly. During its operation it has often very remarkable influence in rendering the pulse slower; and it frequently excites very considerable vertigo, and an affection of vision.

Besides dropsy, the digitalis has of late also been employed in some instances of hæmoptysis, of phthisis, and of mania, with apparent good effects. But its use in these diseases is much less common than in dropsy.

DOLICHOS [*Ed.*] *Pubes leguminis rigida.*

Dolichos pruriens Lin.

Co-

Cowhage; the rigid down of the pod.

The dolichos is a plant growing in great abundance in warm climates, particularly in the Weſt India iſlands; and there it is very troubleſome to cattle and other domeſtic animals. For on account of the ſpiculæ of the ſeed-bag, it excites, when touched, a very uneaſy itching. Theſe ſpiculæ have been long uſed in South America, in caſes of worms; and have of late been frequently employed in Britain. The ſpiculæ of one pod mixed with ſyrup or molaſſes, and taken in the morning faſting, is a doſe for an adult. The worms are ſaid to appear with the ſecond or third doſe; and by means of a purge in ſomes caſes the ſtools are ſaid to have conſiſted almoſt entirely of worms; and in caſes of lumbrici, it is ſaid to produce a ſafe and effectual cure. Thoſe who have uſed it moſt, particularly Dr Bancroft and Dr Cochrane, affirm that they have never ſeen any inconvenience reſulting from the internal uſe of it, notwithſtanding the great uneaſineſs it occaſions on the ſlighteſt touch to any part of the ſurface.

DORONICUM GERMANICUM, vide ARNICA.

DULCAMARA [*Ed.*] *Stipites.*

Solanum dulcamara Lin.

Bitter-ſweet, or woody nightſhade; the ſtalks.

This plant grows wild in moiſt hedges, and climbs on the buſhes with woody brittle ſtalks. The taſte of the twigs and roots, as the name of the plant expreſſes, is both bitter and ſweet: the bitterneſs being firſt perceived, and the ſweetneſs afterwards. The dulcamara was formerly much eſteemed as a powerful medicine. It is in general ſaid to occaſion ſome conſiderable evacuation by ſweat, urine or ſtool, particularly the latter. It has been recommended as a diſcutient and reſolvent medicine; and it has been ſaid to be attended with good effects in obſtinate cutaneous diſeaſes of the herpetic kind. It has alſo been uſed, and ſometimes with advantage, in caſes of rheumatiſm, jaundice, and obſtructed menſtruation. It has principally been employed under the form of watery infuſion, ſometimes under that of extract.

EBULUS [*Suec.*] *Radix, folia, baccæ.*

Sambucus ebulus Lin.

Dwarf elder; the root, leaves, and berries.

This plant grows wild in ſome counties of England; but about London is rarely met with, unleſs in gardens; the eye diſtinguiſhes little difference between it and the elder tree except in the ſize; the elder being a pretty large tree, and the dwarf elder only an herb three or four feet high. The leaves, roots, and bark of *ebulus* have a nauſeous, ſharp, bitter taſte, and a kind of acrid ungrateful ſmell: they are all ſtrong cathartics, and as ſuch are recommended in dropſies, and other caſes where medicines of that kind are indicated. The bark of the root is ſaid to be ſtrongeſt; the leaves the weakeſt. But they are all too draſtic medicines for general uſe: they ſometimes evacuate violently upwards, almoſt always nauſeate the ſtomach, and occaſion great uneaſineſs of the bowels. By boiling, they become like the other draſtics, milder, and more ſafe in operation. Fernelius relates, that by long coction they entirely loſe their purgative virtue. The berries of this plant are likewiſe purgative, but leſs virulent than the other parts. A rob prepared from them may be given

even to the quantity of an ounce as a cathartic; and in ſmaller ones as an aperient and deobſtruent in chronic diſorders: with this laſt intention, it is ſaid by Haller to be frequently uſed in Switzerland, in the doſe of a dram.

ELATERIUM, vide CUCUMIS AGRESTIS.

ELEMI [*Lond.*] *Reſina.*
Amyris elemifera Lin.
Gum elemi.

This is a reſin brought from the Spaniſh Weſt Indies, and ſometimes from the Eaſt Indies, in long roundiſh cakes, generally wrapped up in flag leaves. The beſt ſort is ſoftiſh, ſomewhat tranſparent, of a pale whitiſh yellow colour, inclining a little to green, of a ſtrong, not unpleaſant, ſmell. It almoſt totally diſſolves in pure ſpirit, and ſends over ſome part of its fragrance along with this menſtruum in diſtillation: diſtilled with water, it yields a conſiderable quantity of pale coloured, thin, fragrant eſſential oil. This reſin gives name to one of the officinal unguents, and it is at preſent ſcarcely any otherwiſe uſed; tho' it is certainly preferable for internal purpoſes to ſome others which are held in greater eſteem.

ELEUTHERIA, vide CASCARILLA.

ENDIVIA [*Brun.*] *Semen.*
Cichoreum endivia Lin.
Endive; the ſeed.

Endive is raiſed in gardens for culinary uſe. It is a gentle cooler and aperient, nearly of the ſame quality with the *cichoreum*. The ſeeds are ranked among the four leſſer cold ſeeds.

ENULA CAMPANA [*Lond.*] *Radix.*
Inula Helenium Lin.
Elecampane; the root.

This is a very large downy plant, ſometimes found wild in moiſt rich ſoils. The root, eſpecially when dry, has an agreeable aromatic ſmell: its taſte, on firſt chewing, is glutinous, and as it were ſomewhat rancid; in a little time it diſcovers an aromatic bitterneſs, which by degrees becomes conſiderably acrid and pungent. Elecampane root poſſeſſes the general virtues of alexipharmacs: it is principally recommended for promoting expectoration in humoral aſthmas and coughs: liberally taken, it is ſaid to excite urine, and looſen the belly. In ſome parts of Germany, large quantities of this root are candied, and uſed as a ſtomachic, for ſtrengthening the tone of the viſcera in general, and for attenuating tenacious juices. Spirituous liquors extract its virtues in greater perfection than watery ones: the former ſcarcely elevate any thing in diſtillation; with the latter an eſſential oil ariſes, which concretes into white flakes: this poſſeſſes at firſt the flavour of the elecampane, but is very apt to loſe it in keeping. An extract made with water poſſeſſes the bitterneſs and pungency of the root, but in a leſs degree than one made with ſpirit.

ERUCA [*Brun.*] *Semen.*
Braſſica eruca Lin.
Rocket; the ſeeds.

This was formerly much cultivated in gardens for medicinal uſe, and for ſallads; but is at preſent leſs common. In appearance, it reſembles muſtard; but is eaſily diſtinguiſhable by the ſmoothneſs of its leaves, and its diſagreeable ſmell. The ſeeds have a pungent taſte, of the muſtard kind, but weaker: they

have long been celebrated as a phrodifiacs; and may, probably, have in ſome caſes a title to this virtue, in common with other acrid plants.

ERYNGIUM [*Lond.*] *Radix.*
Eryngium maritimum Lin.
Eryngo; the root.

This plant grows plentifully on ſome of our ſandy and gravelly ſhores: the roots are ſlender, and very long; of a pleaſant ſweetiſh taſte, which on chewing them for ſome time, is followed by a light degree of aromatic warmth and acrimony. They are accounted aperient and diuretic, and have alſo been celebrated as aphrodiſiac; their virtues, however, are too weak to admit them under the head of medicines.

ERYSIMUM [*Roſ.*] *Herba recens.*
Eryſimum officinale Lin.
Hedge-muſtard; the recent plant.

This is a low hairy plant, common in waſte places and by way-ſides. The ſeeds are ſaid to promote expectoration, excite urine and the other fluid ſecretions, and to attenuate and diſſolve viſcid juices, &c. This they are ſuppoſed to perform by an acrimonious ſtimulating quality; but the taſte diſcovers in them only an herbaceous ſoftneſs void of acrimony: the ſeeds indeed are conſiderably pungent, and the roots in ſome ſmall degree.

EUPATORIUM [*Brun.*] *Herba.*
Eupatorium cannabinum Lin.
Hemp agrimony; the plant.

This plant is found wild by the ſides of rivers and ditches. It has an acrid ſmell, and a very bitter taſte, with a conſiderable ſhare of pungency. The leaves are much recommended for ſtrengthening the tone of the viſcera, and as an aperient; and are ſaid to have excellent effects in the dropſy, jaundice, cachexies, and ſcorbutic diſorders. Boerhaave informs us, that this is the common medicine of the turf-diggers in Holland, againſt ſcurvies, foul ulcers, and ſwellings in the feet, to which they are ſubject. The root of this plant is ſaid to operate as a ſtrong cathartic: but it is hardly uſed in Britain, and has no place in our pharmacopœias.

EUPHORBIUM [*Suec.*] *Gummi reſina.*
Euphorbia officinarum Lin.
Euphorbium.

This gummi-reſinous ſubſtance is a ſpontaneous exudation from a large oriental tree. It is brought to us immediately from Barbary, in drops of an irregular form; ſome of which upon being broken, are found to contain little thorns, ſmall twigs, flowers, and other vegetable matters; others are hollow, without any thing in their cavity: the tears in general are of a pale yellow colour externally, but ſomewhat white within; they eaſily break between the fingers. Lightly applied to the tongue, they affect it with a very ſharp biting taſte; and upon being held for ſome time in the mouth, prove vehemently acrimonious, inflaming and exulceratiug the fauces, &c. Euphorbium is extremely troubleſome to pulveriſe; the finer part of the powder, which flies off, affecting the head in a violent manner. The acrimony of this ſubſtance is ſo great as to render it abſolutely unfit for any internal uſe: ſeveral correctors have been contrived to abate its virulence; but the beſt of them are not to be truſted to: and as there ſeems to be no real occaſion for it, unleſs for ſome external purpoſes, we think, with Hoffman and others, that it ought to be expunged

punged from the catalogue of internal medicines. And accordingly it has now no place in the London or Edinburgh pharmacopœias. But it is ſtill retained in moſt of the foreign ones, and is ſometimes uſed as a ſternutatory.

EUPHRASIA [*Brun.*] *Folia.*
Euphraſia officinarum Lin.
Eye-bright; the leaves.

This is a very low plant, growing wild in moiſt fields. It was formerly celebrated as an ophthalmic, both taken internally and applied externally. Hildanus ſays, he has known old men of ſeventy, who had loſt their ſight, recover it again by the uſe of this herb: later practitioners, however, have not been ſo happy as to obſerve any ſuch good effects from it. At preſent it is totally, and not unjuſtly, diſregarded.

FABA [*Roſs.*] *Semen.*
Vicia Faba Lin.
Beans; the ſeed.

Beans are of greater uſe for culinary than medical purpoſes; they are a ſtrong flatulent food, ſufficiently nutritious, but not eaſy of digeſtion, eſpecially when grown old. A water diſtilled from the flowers has been celebrated as a coſmetic, and ſtill retains its character among ſome female artiſts.

FERRUM *et* CHALYBS [*Lond.*]

Iron and ſteel. Iron, cemented with animal or vegetable coal, forms ſteel.

Steel is accounted leſs proper for medicinal uſe than the ſofter iron, as being more difficultly acted upon by the animal-juices and the common menſtrua: iron diſſolves readily in all acids, and ruſts freely in the air, eſpecially if occaſionally moiſtened with water; ſteel requires a longer time for its ſolution, and does not ruſt ſo eaſily.

The general virtues of theſe metals, and the ſeveral preparations of them, are, to conſtringe the fibres, to quicken the circulation, to promote the deficient ſecretions in the remoter parts, and at the ſame time repreſs inordinate diſcharges into the inteſtinal tube. After the uſe of them, if they take effect, the pulſe is very ſenſibly raiſed; the colour of the face, though before pale changes to a florid red; the alvine, urinary, and cuticular excretions, are increaſed. Nidorous eructions, and the fæces voided of a black colour, are marks of their taking due effect.

An aperient virtue is uſually attributed to ſome of the preparations of iron, and an aſtringent to others; but in reality, they all produce the effects both of aperients and aſtringents, and ſeem to differ only in degree. Thoſe diſtinguiſhed by the name of aſtringent ſometimes occaſion a very copious diſcharge of urine, or a diarrhœa; while thoſe called aperient frequently ſtop theſe evacuations.

Where either preternatural diſcharge, or ſuppreſſion of natural ſecretions, proceed from a languor and ſluggiſhneſs of the fluids, and weakneſs of the ſolids; this metal, by increaſing the motion of the former, and the ſtrength of the latter, will ſuppreſs the flux, or remove the ſuppreſſion: but where the circulation is already too quick, and the ſolids too tenſe and rigid, or where there is any ſtricture or ſpaſmodic contraction of the veſſels; iron, and all the preparations of it, will aggravate equally both diſtempers.

Though the different preparations of iron act all in the ſame manner, yet they are not equally proper in all conſtitutions. Where acidities abound in the firſt paſſages,

the crude filings, reduced into a fine powder, prove more serviceable than the most elaborate preparation of them. On the other hand, where there is no acid in the primæ viæ, the metal requires to be previously opened by saline menstrua: hence a solution of iron in acid liquors has in many cases excellent effects, where, as Boerhaave observes, the more indigestible preparations, as the calces made by fire, have scarcely any effect at all. If alkalescent juices be lodged in the stomach, this metal, though given in a liquid form, proves at least useless; for here the acid solvent is absorbed by the alkaline matters which it meets with in the body, so as to leave the iron reduced to an inactive calx.

Chalybeate medicines are likewise supposed to differ, independently of differences in the constitution, according to the nature of the acid united with the metal: vegetable acids superadd a detergency and aperient virtue; combined with the vitriolic, it acts in the first passages as a powerful aperient; while the nitrous renders it extremely styptic, and the marine still more so. The different preparations of iron will be more particularly mentioned afterwards.

Iron is the only metal which seems naturally friendly to the animal body.

Its chief preparations are the prepared filings and rust, the tincture, the salt, and the martial flowers, or ferrum ammoniacale; and these are used principally in cases of weakness and relaxation, whether attended with morbid discharges or morbid suppressions.

FILIPENDULA [*Brun.*] *Radix.*

Spirea filipendula Lin.

Dropwort; the root.

This plant grows wild in fields and chalky grounds: the root consists of a number of tubercles, fastened together by slender strings; its taste is rough and bitterish, with a slight degree of pungency. These qualities point out its use in a flaccid state of the vessels, and a sluggishness of the juices: the natural evacuations are in some measure restrained or promoted by it, where the excess or deficiency proceed from this cause. Hence some have recommended it as an astringent in dysenteries, immoderate uterine fluors, &c. others as a diuretic; and others as an aperient and deostruent in scrophulous habits. At present it is wholly disregarded.

FILIX [*Lond. Ed.*] *Radix.*

Polypodium filix mas Lin.

Common male fern; the root.

Several species of the fern root had formerly a place in the materia medica, and the present article seems to have been employed at least as early as the days of Dioscorides, for the purpose for which it is now used in medicine. But it is said to have been entirely neglected, till some years ago a remedy employed by Madame Noufer of Switzerland for the cure of the tænia, claimed the attention of the practitioners of France. Her secret, after being tried at Paris under the direction of some of the most eminent physicians, was purchased by the French king, and published afterwards. Since that time, the filix mas has been introduced into the pharmacopœias both of the London and Edinburgh colleges.

The filix mas is a vegetable growing in great abundance in almost every part of Britain where the ground is not cultivated. The greatest part of the root lies horizontally, and has a great number of appendages placed close to each other in a vertical direction, while a number

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of small fibres strike downwards. The large root, together with its appendages, are to be reserved for use. The two ends, however, are to be cut off, the one being too old and spongy, the other too new and green.

This root, under the form of powder, is found to prove a very effectual cure for the tænia lata or tape-worm. It sometimes also, although not with equal certainty, succeeds in the removal of the tænia cucurbitina or gourd worm.

Two or three drams of the powder are taken in the morning, no supper having been taken the night before. It generally sickens a little. A brisk cathartic with calomel is given a few hours after, which sometimes brings off the tænia entire; if not, the same course must be followed at due intervals.

For the success of this remedy, it is proper that the root should be recently gathered; for after being long kept in the shops, its activity is much diminished. And we are of opinion, that it should be used recently dug, being brought to a state fit for reduction to powder by drying it with fire.

FLAMULA JOVIS [*Ed.*] *Folia, flores.*

Clematis recta Lin.

Upright virgin's bower; the leaves and flowers.

This article is introduced into but few of the modern pharmacopœias, and has never been much employed in Britain. As well as many other active articles, supposed to be of a poisonous nature, it was some time ago recommended to the attention of practitioners by Dr Stoerk of Vienna.

Its leaves and flowers are so acrid as to blister. Dr Stoerk recommends it in venereal, cancerous, and other cutaneous affections, in those headachs, pains of the bones, and wastings of the habit, the consequences of lues venerea. Externally the powder is sprinkled on the ulcers; the forms for internal use are the infusion and extract.

FŒNICULUM DULCE [*Lond. Ed.*] *Semen.*

Anethum fœniculum Lin.

Sweet fennel; the seeds.

FŒNICULUM VULGARE [*Ed.*] *Radix.*

Anethum fœniculum Lin var β.

Common fennel; the roots.

The sweet fennel is smaller in all its parts than the common, except the seeds, which are considerably larger. The seeds of the two sorts differ likewise in shape and colour: those of the common are roundish, oblong, flattish on one side, and protuberant on the other, of a dark almost blackish colour; those of the sweet are longer, narrower, not so flat, generally crooked, and of a whitish or pale yellowish colour. Both sorts are cultivated in our gardens: the common is a perennial plant: the sweet fennel perishes after it has given seed; nor do its seeds come to such perfection in this climate as those which we receive from Germany.

The seeds of both the fennels have an aromatic smell, and a moderately warm, pungent taste: those of the *fœniculum dulce* are in flavour most agreeable, and have also a considerable degree of sweetness, hence our colleges have directed the use of these only. They are ranked among the four greater hot seeds, and not undeservedly looked upon as good stomachics and carminatives. A simple water is prepared from them in the shops; they are ingredients also in the compound spirit of juniper, and some other officinal compositions.

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The root is far leſs warm, but has more of a ſweetiſh taſte, than the ſeeds: it is one of the five roots called openers; and has ſometimes been directed in aperient apozems. Boerhaave ſays, that this root agrees in taſte, ſmell, and medical qualities, with the celebrated *ginſeng* of the Chineſe; from which, however, it appears to be very conſiderably different.

The leaves of fennel are weaker than either the roots or ſeeds, and have very rarely been employed for any medicinal uſe.

FŒNUM GRÆCUM [*Lond. Ed.*] *Semen.*

Trigonella fœnum græcum Lin.

Fenugreek; the ſeed.

This plant is cultivated chiefly in the ſouthern parts of France, Germany, and Italy: from whence the ſeeds are brought to us. They are of a yellowiſh colour, a rhomboidal figure, a diſagreeable ſtrong ſmell, and a mucilaginous taſte. Their principal uſe is in cataplaſms, fomentations, and the like, and in emollient glyſters. They entered the *oleum e mucilaginibus* of the ſhops; to which they communicate a conſiderable ſhare of their ſmell. But this formula is now rejected.

FORMICÆ CUM ACERVO [*Suec.*]

Formica rufa Lin.

Ants; their bodies and eggs.

Theſe inſects are at preſent not employed by us in medicine, though formerly much celebrated for aphrodiſiac virtues. They enter the *aqua magnanimitatis*, and other like compoſitions of foreign diſpenſatories. It is remarkable, that theſe animals contain a truly acid juice, which they ſhed in ſmall drops upon being irritated; by infuſing a quantity of live and vigorous ants in water, an acid liquor is obtained nearly as ſtrong as good vinegar. Neumann obſerves, that on diſtilling them either with water or pure ſpirit, a clear limpid oil ariſes, which has ſcarcely any taſte, or at leaſt is not hot or pungent like the eſſential oils of vegetables.

In ſome of the foreign pharmacopœias, they are the baſis of an *oleum formicarum*, a *ſpiritus formicarum*, and a *ſpiritus formicarum acidus*; from which it may be preſumed, that they are pretty frequently employed.

FRAGARIA [*Suec.*] *Fructus recens, folia.*

Fragaria veſca Lin.

Strawberry; its leaves and fruit.

The leaves are ſomewhat ſtyptic and bitteriſh; and hence may be of ſervice in debility and laxity of the viſcera; and immoderate ſecretions, or a ſuppreſſion of the natural evacuations, depending thereon: they are recommended in hæmorrhagies and fluxes; and likewiſe as aperients, in ſuppreſſion of urine, obſtructions of the viſcera, in the jaundice, &c. The fruit is in general very grateful both to the palate and ſtomach: like other fruits of the dulco-acid kind, they abate heat, quench thirſt, looſen the belly, and promote urine; but do not afford much nouriſhment. Geoffroy obſerves, that the urine of thoſe who eat liberally of this fruit, becomes impregnated with its fragrant ſmell.

FRAXINELLA, vide DICTAMNUS ALBUS.

FRAXINUS [*Suec.*] *Cortex et ſemen.*

Fraxinus excelſior Lin.

The aſh-tree; its bark and ſeeds.

The bark of this tree is moderately aſtringent, and as ſuch has ſometimes been made uſe of. It has alſo

alſo been propoſed as a ſubſtitute for the Peruvian bark in the cure of intermittents; but its efficacy is not confirmed by experience. The ſeeds, which are ſomewhat acrid, have been employed as aperients. There are ſo many other medicines more agreeable, and more efficacious for theſe intentions, that all the parts of the aſh-tree have long been neglected.

FULIGO LIGNI [*Ed.*]
Wood ſoot.

This concrete is of a ſhining black colour, a diſagreeable ſmell, and an acrid, bitter, nauſeous taſte. Its chief uſe is in hyſteric and other nervous caſes, in which it is ſometimes given in conjunction with the fetid gums: it gives name to a tincture of this kind in the ſhops. But the efficacy of that article probably depends much more on the aſſafœtida it contains, than on the ſoot from whence it derives its name. Its virtues are extracted both by watery and ſpirituous liquors; each of which, if the ſoot be of a good kind, diſſolve about one ſixth. Soot is ſaid to differ greatly in quality according to the wood from which it was produced: the more reſinous the wood, the more the ſoot abounds with bitter oily matter. On chemical analyſis, it yields volatile and fixed alkali, empyreumatic oil, and earth.

FUMARIA [*Ed.*] *Folia.*
Fumaria officinalis Lin.
Fumitory; the leaves.

This is a common weed in ſhady cultivated grounds, producing ſpikes of purpliſh flowers in May and June. It is very juicy, of a bitter taſte, without any remarkable ſmell. The medical effects of this herb are, to ſtrengthen the tone of the bowels, gently looſen the belly, and promote the urinary and other natural ſecretions. It is principally recommended in melancholic, ſcorbutic, and cutaneous diſorders; for opening obſtructions of the viſcera, attenuating and promoting the evacuation of viſcid juices. Frederick Hoffman had a very high opinion of it as a purifier of the blood; and aſſures us, that with this intention ſcarcely any plant exceeds it. Both watery and ſpirituous menſtrua extract its virtues.

GALANGA MINOR [*Brun.*] *Radix.*
Maranta galanga Lin.
Galangal; the root.

This root is brought from China, it comes to us in pieces ſcarcely an inch long, and not half ſo thick, full of joints, with ſeveral circular rings on the outſide; of an aromatic ſmell, and a bitteriſh, hot, biting taſte. Galangal is a warm ſtomachic bitter: it has been frequently preſcribed in bitter infuſions, but the flavour it gives is not agreeable.

GALBANUM [*Lond. Ed.*]
Gummi reſina.
Bubon galbanum Lin.
Galbanum; the gum.

This is the concrete juice of an African plant. The juice, as brought to us, is ſemipellucid, ſoft, tenacious; of a ſtrong, and, to ſome, unpleaſant, ſmell; and a bitteriſh warm taſte: the better ſort is in pale-coloured maſſes, which, on being opened, appear compoſed of clear white tears. Geoffroy relates, that a dark greeniſh oil is to be obtained from this ſimple by diſtillation, which, upon repeated rectifications, becomes of an elegant ſky-blue colour. The purer ſorts of galbanum are ſaid by ſome to diſſolve entirely in wine, vinegar, or water; but theſe liquors are only partial menſtrua with regard to this drug; nor do ſpirit of wine, or oils,

prove

prove more effectual in this reſpect: the beſt diſſolvent is a mixture of two parts ſpirit of wine and one of water. Galbanum agrees in virtue with gum ammoniacum; but is generally accounted leſs efficacious in aſthmas, and more ſo in hyſterical complaints. It is an ingredient in the gum pills, the gum plaſter, and ſome other officinal compoſitions.

GALEGA [*Brun.*] *Herba.*
Galega officinalis Lin.
Goat's rue; the herb.

This was celebrated as an alexipharmac; but its ſenſible qualities diſcover no foundation for any virtues of this kind: the taſte is merely leguminous; and in Italy, where it grows wild, it is ſaid to be uſed as food.

GALLA [*Lond. Ed.*]
Nidus cynipidis quercus orientalis.
Galls.

Theſe are excreſcences found in the warmer countries, upon the oak tree: they are produced by a kind of inſect (the cynips) which wounds the young buds or branches, and they afterwards ſerve as a lodgement for its eggs: the animal within the gall eats its way through; thoſe which have no hole are found to have the inſect remaining in them. The beſt galls come from Aleppo: theſe are not quite round and ſmooth like the other ſorts, but have ſeveral tubercles on the ſurface. Galls have a very auſtere ſtyptic taſte, without any ſmell: they are very ſtrong aſtringents, and as ſuch have been ſometimes made uſe of both internally and externally, but are not much taken notice of by the preſent practice.

Some recommend an ointment of powdered galls and hogs lard as very effectual in certain painful ſtates of hæmorrhois; and it is alleged, that the internal uſe of galls has cured intermittents after the Peruvian bark has failed. A mixture of galls with a bitter and aromatic has been propoſed as a ſubſtitute for the bark.

GALLIUM LUTEUM [*Brun.*] *Herba.*
Gallium verum Lin.
Ladies bed-ſtraw; the herb.

This herb has a ſubacid taſte, with a very faint, not diſagreeable, ſmell: the juice changes blue vegetable infuſions of a red colour, and coagulates milk, and thus diſcovers marks of acidity. It ſtands recommended as a mild ſtyptic, and in epilepſy; but has never been much in uſe.

GAMBOGIA [*Lond. Ed.*]
Gummi reſina.
Gambogia gutta Lin.
Gamboge; the gum-reſin.

Gamboge; a ſolid concrete juice, brought from the Eaſt Indies in large cakes or rolls. The beſt ſort is of a deep yellow or orange colour, breaks ſhining and free from droſs: it has no ſmell, and very little taſte, unleſs kept in the mouth for ſome time, when it impreſſes a ſlight ſenſe of acrimony. It immediately communicates to ſpirit of wine a bright golden colour, and almoſt entirely diſſolves in it; Geoffroy ſays, except the ſixth part. Alkaline ſalts enable water to act upon this ſubſtance powerfully as a menſtruum: the ſolution made by their means is ſomewhat tranſparent, of a deep blood-red colour, and paſſes the filtre: the dulcified ſpirit of ſal ammoniac readily and entirely diſſolves it, and takes up a conſiderable quantity; and what is pretty remarkable, this ſolution mixes either with water or ſpirit, without growing turbid.

Gamboge evacuates powerfully both upwards and downwards; ſome con-

condemn it as acting with too great violence, and occasioning dangerous hypercatharses; whilst others are of a contrary opinion. Geoffroy seems particularly fond of this medicine, and informs us, that he has frequently given, from two to four grains, without its proving at all emetic; that from four to eight grains, it both vomits and purges, without violence; that its operation is soon over, and that if given in a liquid form, and sufficiently diluted, it does not need any corrector; that in the form of a bolus or pill, it is most apt to prove emetic, but very rarely has this effect if joined along with *mercurius dulcis*. He nevertheless cautions against its use where the patient cannot easily bear vomiting.

It has been used in dropsy with cream of tartar or jalap, or both, to quicken their operation. It is also recommended by some to the extent of fifteen grains with an equal quantity of vegetable alkali in cases of the tape-worm. This dose is ordered in the morning; and if the worm is not expelled in two or three hours, it is repeated even to the third time with safety and efficacy. It is asserted, that it has been given to this extent even in delicate habits.

This is said to be the remedy alluded to by Baron Van Swieten, which was employed by Dr Herrenschward, and with him proved so successful in the removal of the tænia lata.

GENISTA [*Lond. Ed.*] *Cacumen, semen.*

Spartium scoparium Lin.

Broom: the top and seed.

The leaves of this shrub have a nauseous bitter taste: decoctions of them loosen the belly, promote urine, and stand recommended in hydropic cases.

The flowers are said to prove cathartic in decoction, and emetic in substance; though in some places, as Lobel informs us, they are commonly used, and in large quantity, in salads, without producing any effect of this kind. The qualities of the seeds are little better determined: some report, that they purge almost as strongly as hellebore, in the dose of a dram and a half; whilst the author above mentioned relates, that he has given a decoction of two ounces of them as a gentle emetic.

An infusion of a dram of well powdered and sifted broom seed for twelve hours, in a glass and a half of rich white wine, taken in the morning fasting, is recommended in an anonymous pamphlet as a sovereign remedy in dropsy. The patient is afterwards to walk or ride for an hour and an half, and then to swallow two ounces of olive oil. This method is to be repeated every second day, or once in three days, till the cure be completed.

Broom ashes have been long recommended in dropsy, and are particularly celebrated by Dr Sydenham. But the efficacy of this medicine depends entirely on the alkaline salt, and not in the smallest degree on the vegetable from which it is obtained by burning.

GENTIANA [*Lond. Ed.*] *Radix.*

Gentiana lutea Lin.

Gentian; the root.

This plant is found wild in some parts of England: but the dried roots are most commonly brought from Germany. They should be chosen fresh, and of a yellow or bright gold colour within. This root is a strong bitter; and as such, very frequently used in practice: in taste it is less exceptionable than most of the other substances of this class: infusions of it, flavoured with orange-peel, are sufficiently

he has found the *root* of this plant a medicine similar in virtue to ipecacuanha.

This herb has been mentioned as useful in the venereal disease: And by some it has been highly extolled in maniacal cases.

GUAIACUM [*Lond Ed.*] *Lignum, cortex, gummi-resina.*

Guaiacum officinale Lin.

Guaicum; its wood, bark, and resin.

The guaiacum is a tree growing in the warmer parts of the Spanish West Indies.

The wood is very ponderous, of a close compact texture; the outer part is of a yellow colour, the heart of a deep blackish green, or variegated with black, green, pale, and brown colours: the bark is thin, smooth, externally of a dark greyish hue: both have a lightly aromatic, bitterish, pungent taste; the bark is somewhat the weakest. The resin which exudes from incisions made in the trunk of the tree is brought to us in irregular masses, usually friable, of a dusky greenish, and sometimes of a reddish cast, with pieces of the wood among them: its taste is more acrid and pungent than that of the wood or bark.

Their general virtues are those of a warm stimulating medicine: they strengthen the stomach and other viscera; and remarkably promote the urinary and cuticular discharges; hence in cutaneous defedations, and other disorders proceeding from obstructions of the excretory glands, and where sluggish serous humours abound, they are eminently useful: rheumatic and other pains have often been relieved by them. They are also laxative. The resin is the most active of these drugs: and the efficacy of the others depends upon the quantity of this part contained in them: the resin is extracted from the wood in part by watery liquors, but much more perfectly by spirituous ones; the watery extract of this wood kept in the shops, proves not only less in quantity, but considerably weaker than one made with spirit. This last extract is of the same quality with the native resin, and differs from that brought to us only in being purer. The gum or extracts, are given from a few grains to a scruple, or half a dram, which last dose proves for the most part considerably purgative. The officinal preparations of guaiacum are an extract of the wood, a solution of the gum in rectified spirit of wine, and a solution in volatile spirit, and an empyreumatic oil distilled from the wood.

Guaiacum in decoction has been said to cure the venereal disease; and in this country it is frequently used as an adjuvant to mercury. The resin dissolved in rum, or combined with water, by means of mucilage or the yolk of egg, or in the form of the volatile tincture or elixir, is much employed in gout and chronic rheumatism. The tincture or elixir has been given to the extent of half an ounce twice a-day, and is sometimes usefully combined with laudanum.

GUMMI AMMONIACUM, vide AMMONIACUM.

GUMMI ARABICUM [*Lond. Ed.*]

Mimmosa nilotica Lin.

Gum arabic.

Gum arabic is a concrete gum, exuding from a tree growing in great abundance in Egypt and Arabia, which has accordingly given name to this gum. It is brought to us from Turkey, in small irregular masses or strings, of a pale yellowish colour. The true gum Arabic is rarely to be met with in the shops;

shops; gum senega or senica, which comes from the coast of Guinea, being usually sold for it. This greatly resembles the other, and perhaps, as Dale conjectures, exudes from a tree of the same kind: it is generally in large pieces, rough on the outside; and in these circumstances possibly consists the only difference between the two; altho' the former is held to be the purer and finer gum, and therefore preferred for medicine; and the latter the strongest, most substantial, and cheapest, and consequently more employed for mechanic uses. The virtues of this gum are the same with those of gummy and mucilaginous substances in general: it is given from a scruple to two drams in hoarsenesses, a thin acrimonious state of the fluids, and where the natural mucus of the intestines is abraded. It is an ingredient in the white decoction, chalk julep, the common emulsion, and some of the troches.

GUMMI ELEMI, vide ELEMI.

GUMMI TRAGACANTHA [*Lond. Ed.*]

Astragalus tragacanthus Lin.

Gum tragacanth.

The gum tragacanth is obtained from a thorny bush growing in Crete, Asia, and Greece. This gum is of a much stronger body than either of the foregoing, and does not so perfectly dissolve in water. A dram will give to a pint of water the consistence of a syrup, which a whole ounce of gum arabic is scarcely sufficient to do. Hence its use for forming troches, and the like purposes, in preference to the other gums. It gives name to an officinal powder, and is an ingredient in the compound powder of scruss.

GUTTA GAMBA, vide GAMBOGIA.

HÆMATITES *Lapis* [*Brun.*]

Hæmatites, or bloodstone.

This is an elegant iron ore, extremely hard, of a dark reddish or yellowish colour: it is found either along with other ores of iron, or in distinct mines by itself. With regard to its medical virtues, we conceive they do not vary from those experienced from rust, and the common croci of iron, notwithstanding the extraordinary opinion which many have entertained of it; such as its curing ulcers of the lungs, which Geoffroy says the hæmatites dries and heals.

HEDERA ARBOREA [*Brun.*] *Folia, resina.*

Hedera helix Lin.

Ivy; the leaves and resin.

This is a climbing shrubby plant, growing commonly from the trunks of trees, or on old walls. The leaves have very rarely been given internally; notwithstanding they are recommended strongly by some against the atrophy of children; their taste is nauseous, acrid, and bitter. Externally, they have sometimes been employed for drying and healing ichorous sores, and likewise for keeping issues open. The berries were supposed by the antients to have a purgative and emetic quality; later writers have recommended them in small doses, as diaphoretics and alexipharmacs; and Mr Boyle tells us, that in the London plague the powder of them was given with vinegar with good success, as a sudorific. It is probable the virtue of the composition was rather owing to the vinegar than to the powder. The resin was ranked by the antients (if their δακρυον του κισσου was the same with our *gummi hedera*)

he has found the *root* of this plant a medicine similar in virtue to ipecacuanha.

This herb has been mentioned as useful in the venereal disease: And by some it has been highly extolled in maniacal cases.

GUAIACUM [*Lond Ed.*] *Lignum, cortex, gummi-resina.*

Guaiacum officinale Lin.

Guaicum; its wood, bark, and resin.

The guaiacum is a tree growing in the warmer parts of the Spanish West Indies.

The wood is very ponderous, of a close compact texture; the outer part is of a yellow colour, the heart of a deep blackish green, or variegated with black, green, pale, and brown colours: the bark is thin, smooth, externally of a dark greyish hue: both have a lightly aromatic, bitterish, pungent taste; the bark is somewhat the weakest. The resin which exudes from incisions made in the trunk of the tree is brought to us in irregular masses, usually friable, of a dusky greenish, and sometimes of a reddish cast, with pieces of the wood among them: its taste is more acrid and pungent than that of the wood or bark.

Their general virtues are those of a warm stimulating medicine: they strengthen the stomach and other viscera; and remarkably promote the urinary and cuticular discharges; hence in cutaneous defedations, and other disorders proceeding from obstructions of the excretory glands, and where sluggish serous humours abound, they are eminently useful: rheumatic and other pains have often been relieved by them. They are also laxative. The resin is the most active of these drugs: and the efficacy of the others depends upon the quantity of this part contained in them: the resin is extracted from the wood in part by watery liquors, but much more perfectly by spirituous ones; the watery extract of this wood kept in the shops, proves not only less in quantity, but considerably weaker than one made with spirit. This last extract is of the same quality with the native resin, and differs from that brought to us only in being purer. The gum or extracts, are given from a few grains to a scruple, or half a dram, which last dose proves for the most part considerably purgative. The officinal preparations of guaiacum are an extract of the wood, a solution of the gum in rectified spirit of wine, and a solution in volatile spirit, and an empyreumatic oil distilled from the wood.

Guaiacum in decoction has been said to cure the venereal disease; and in this country it is frequently used as an adjuvant to mercury. The resin dissolved in rum, or combined with water, by means of mucilage or the yolk of egg, or in the form of the volatile tincture or elixir, is much employed in gout and chronic rheumatism. The tincture or elixir has been given to the extent of half an ounce twice a-day, and is sometimes usefully combined with laudanum.

GUMMI AMMONIACUM, vide AMMONIACUM.

GUMMI ARABICUM [*Lond. Ed.*]

Mimosa nilotica Lin.

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re) among the depilatories; from this claſs, which it certainly had no title to, it has ſince been removed to that of conglutinaters of wounds, to which it has probably as little title.

HEDERA TERRESTRIS

[*Ed.*] *Herba.*

Glechoma hederacea Lin.

Ground-ivy; the leaves.

Ground-ivy is a low plant, frequent in hedges and ſhady places. It has an aromatic, though not very agreeable, ſmell; and a quick, bitteriſh, warm taſte. This herb is an uſeful corroborant, aperient, and detergent; and hence ſtands recommended againſt laxity, debility, and obſtructions of the viſcera: ſome have had a great opinion of it for cleanſing and healing ulcers of the internal parts, even of the lungs; and for purifying the blood. It is cuſtomary to infuſe the dried leaves in malt liquors; a practice not to be commended, though it readily communicates its virtues, and likewiſe helps to fine them down: ſcarce any other herb has this effect more remarkably than ground-ivy.

HELLENIUM, vide ENULA CAMPANA.

HELLEBORASTER

[*Lond.*] *Folium.*

Helleborus fœtidus Lin.

Bears foot; the leaves.

The leaves of this plant taken in ſeveral different forms have been by ſome recommended as a very powerful anthelmintic. They are particularly extolled by Dr Biſſet in his Eſſay on the Medical Conſtitution of Great Britain, eſpecially under the form of ſyrup, made by moiſtening the leaves of the freſh herb in vinegar, and then preſſing out their juice, which was formed into a ſyrup with coarſe ſugar. Of this ſyrup, Dr Biſſet gave to children from two to ſix years of age, one tea ſpoonful at bed-time and another in the morning, for two or three days ſucceſſively. The doſe was increaſed or diminiſhed, according to the ſtrength of the patient. And in this way he found it very ſucceſsful in the expulſion of lumbrici.

Where the helleboraſter is to be employed, this form is perhaps the beſt, and we doubt not that it may ſucceed where others have failed: but it ſhould not, we apprehend, be employed till ſafer anthelmintics have been tried in vain: for we have heard of ſome inſtances where the imprudent adminiſtration of it has been attended even with fatal conſequences.

HELLEBORUS ALBUS

[*Lond. Ed.*] *Radix.*

Veratrum album Lin.

White hellebore; the root.

This plant grows ſpontaneouſly in Switzerland and the mountainous parts of Germany. The root has a naſeous, bitteriſh, acrid taſte, burning the mouth and fauces: if wounded when freſh, it emits an extremely acrimonious juice, which mixed with the blood, by a wound, is ſaid to prove very dangerous: the powder of the dry root, applied to an iſſue, occaſions violent purging; ſnuffed up the noſe, it proves a ſtrong, and not always a ſafe ſternutatory. This root, taken internally, acts with extreme violence as an emetic; and has been obſerved, even in a ſmall doſe, to occaſion convulſions, and other terrible diſorders. The antients ſometimes employed it in very obſtinate caſes, and always made this their laſt reſource. Modern practice ſeems to have almoſt entirely rejected its internal uſe, though it be ſaid that ſome have lately ventured upon ſo large a doſe as a ſcruple, in maniacal caſes, and have found good effects

effects from it after the ſtronger antimonial preparations had been given in vain. A tincture and honey of it were formerly kept in the ſhops, but are now rejected from the London pharmacopœia. The former is ſtill indeed retained by the Edinburgh college, but it is very rarely if ever uſed.

HELLEBORUS NIGER

[*Lond. Ed.*] *Radix.*

Helleborus niger Lin.

Black hellebore, or melampodium; the roots.

This plant grows wild in the mountainous parts of Switzerland, and Auſtria: the earlineſs of its flowers, which ſometimes appear in December, has gained it a place in our gardens.

In ſome parts of Germany, a ſpecies of black hellebore hasbeen made uſe of, which not unfrequently produced violent, and ſometimes deleterious effects: this the Wirtemberg college particularly caution againſt, though without mentioning any marks by which it may be diſtinguiſhed, or even giving the preciſe name of the plant. It appears to be the fetid hellebore of Linné, called in England, where it grows wild, ſetterwort, ſettlewort, or baſtard hellebore: the roots of this may be diſtinguiſhed from the officinal ſort by their being leſs black. The roots of the poiſonous aconites reſemble in appearance thoſe of the black hellebore; and in the Breſlaw collections we find ſome inſtances of fatal effects occaſioned by miſtaking the former for the latter: theſe alſo are happily diſcoverable by their colour; the *aconitum* being lighter coloured than even the paleſt of the black hellebores. The faculty of Paris, by allowing the uſe of one of the paler hellebores (the green-flowered, which grows wild in England, and is called by our farriers peg-root), have in ſome degree deprived the ſhops of the benefit of this criterion. Since therefore the two noxious roots which the buyer is moſt apt to miſtake for this, are diſtinguiſhable from it by their colour, but have no other external mark by which they may be with certainty known, particular regard ought to be had to this circumſtance; only the deepeſt black being choſen, and all the paler roots rejected.

The taſte of hellebore is acrid and bitter. Its acrimony, as Dr Grew obſerves, is firſt felt on the tip of the tongue, and then ſpreads immediately to the middle, without being much perceived on the intermediate part; on chewing it for a few minutes, the tongue ſeems benumned, and affected with a kind of paralytic ſtupor, as when burnt by eating any thing too hot: the fibres are more acrimonious than the head of the root from which they iſſue. Black hellebore root, taken from fifteen grains to half a dram, proves a ſtrong cathartic; and as ſuch has been celebrated for the cure of maniacal, and other diſorders proceeding from what the antients called *atra bilis*: in theſe caſes, medicines of this kind are doubtleſs occaſionally of uſe, though they are by no means poſſeſſed of any ſpecific power. It does not however appear, that our black hellebore acts with ſo much violence as that of the antients: whence many have ſuppoſed it to be a different plant; and indeed the deſcriptions which the antients have left us of their hellebore, do not agree to any of the ſorts uſually taken notice of by modern botaniſts. Another ſpecies has been diſcovered in the eaſtern countries, which Tournefort diſtinguiſhes by the name of *helleborus niger orientalis, ampliſſimo folio, caule prælto, flore purpuraſcente*, and ſuppoſes to be the true antient hellebore, from its

its growing in plenty about mount Olympus, and in the iſland of Anticyra, celebrated of old for the production of this antimaniacal drug: he relates, that a ſcruple of this ſort, given for a doſe, occaſioned convulſions.

Our hellebore is at preſent looked upon principally as an alterative; and in this light is frequently employed, in ſmall doſes, for attenuating viſcid humours, promoting the uterine and urinary diſcharges, and opening inveterate obſtructions of the remoter glands: it often proves a very powerful emmenagogue in plethoric habits, where ſteel is ineffectual or improper. An extract made from this root with water, is one of the mildeſt, and for the purpoſes of a cathartic the moſt effectual preparations of it. this operates ſufficiently, without occaſioning the irritation which the pure reſin is accompanied with. A tincture drawn with proof ſpirit contains the whole virtue of the hellebore, and ſeems to be one of the beſt preparations of it when deſigned for an alterative: this tincture and the extract, are kept in the ſhops.

The melampodium is the baſis of Bacher's tonic pills for the dropſy. The root is ordered to be macerated in rectified ſpirit of wine, the liquor expreſſed is repeatedly mixed with water and duly evaporated. This is made up into pills with an extract of myrrh and powder of carduus benedictus. They are ſaid to be cathartic and diuretic, and at the ſame time ſtrengtheners of the ſolids.

HEPATICA NOBILIS

[*Brun.*] *Herba.*

Anemone hepatica Lin.

Noble liverwort; the herb.

This herb has a place in our gardens on account of the beauty and early appearance of its flowers. It is a cooling, gentle reſtringent herb; and hence recommended in a lax ſtate of the fibres as a corroborant.

HERMODACTYLUS

[*Brun.*] *Radix.*

Iris tuberoſa Lin.

Hermodactil.

This is a root brought from Turky. It is of the ſhape of a heart flatted, of a white colour, compact, yet eaſy to cut or powder; of a viſcous ſweetiſh taſte, with a light degree of acrimony.

Hermodactils were of great repute among the antients as a cathartic; but thoſe we now meet with in the ſhops have very little purgative virtue; Neumann declares he never found them to have any effect at all.

HERNIARIA [*Brun.*] *Folia.*

Herniaria glabra Lin.

Rupturewort; the leaves.

This is a low herb, growing wild in ſandy and gravelly grounds. It is a very mild reſtringent, and may, in ſome degree, be ſervicable in diſorders proceeding from a weak flaccid ſtate of the viſcera: but to the virtue which it has been moſt celebrated for, that of curing hernias, it has no title.

HIPPOCASTANUM [*Ed.*] *Fructus.*

Æſculus hippocaſtanum Lin.

Horſe-cheſnut; the fruit.

This fruit has been uſed as food for ſheep and poultry, and a ſoap for waſhing. Is was much employed in powder as a ſternutatory by an itinerant oculiſt, and has been recommended by ſome others in certain ſtates of ophthalmia, headach, &c. in which errhines are indicated.

Its effects as a ſternutatory may alſo be obtained by uſing it under the form of infuſion or decoction drawn up into the noſtrils. And it

is entirely with a view to its errhine power that it is now introduced into the pharmacopœia of the Edinburgh college. But beſides this, the bark has alſo been repreſented by ſome as a cure for intermittent fevers; and it is probably with this intention that this part of the hippocaſtanum is introduced as an officinal article in the Pharmacopœia Roſſica.

HORDEUM [*Lond.*] *Semen, ſemen perlatum.*

Hordeum diſtichon Lin.

Barley, and pearl-barley.

Barley is a well known farinaceous grain, cultivated in great abundance in our fields. Pear-barley is prepared by grinding the ſhell barley into little round granules, which appear of a kind of pearly whiteneſs.

Barley, in its ſeveral ſtates, is more cooling, leſs glutinous, and leſs nutritious, than wheat or oats: among the antients, decoctions of it were the principal aliment and medicine in acute diſeaſes. Both a ſimple and compound decoction of barley are introduced into our pharmacopœias.

HORMINUM SATIVUM [*Brun.*] *Herba.*

Horminum ſalvia Lin.

Garden clary; the leaves and ſeeds.

Theſe have a warm, bitteriſh pungent taſte; and a ſtrong, not very agreeable ſmell: the touch diſcovers in the leaves a large quantity of glutinous or reſinous matter. They are principally recommended in the fluor albus, and other female weakneſſes, in hyſteric diſorders, and in flatulent colics.

HYDRARGYRUM, ſive ARGENTUM VIVUM.

Mercury, or quickſilver.

Mercury is an opake ſilver-coloured mineral fluid; appearing to the eye like tin or lead when melted: it is heavier than any other fluid, and than moſt of the metallic bodies: it does not congeal in the greateſt degree of natural cold hitherto known; in the fire it proves totally volatile. This mineral is either met with in its fluid form in the earth; or extracted by art from certain ores. There are conſiderable mines of it in Hungary and Spain; and what is employed in Britain comes chiefly from the former of theſe countries.

The uſe of mercury in medicine ſeems to have been little known before the fifteenth century. The antients looked upon it as a corroſive poiſon, though of itſelf perfectly void of acrimony, taſte, and ſmell: there are examples of its having been lodged for years in cavities both of bones and fleſhy parts, without its having injured or affected them. Taken into the body in its crude ſtate, and undivided, it paſſes through the inteſtines unchanged, and has not been found to produce any conſiderable effect. It has indeed been recommended in aſthmas and diſorders of the lungs; but the virtues attributed to it in theſe caſes have not been warranted by experience.

Notwithſtanding the mildneſs and inactivity of crude quickſilver undivided; yet when reſolved by fire into the form of fume, or otherwiſe divided into very minute particles, and prevented from re-uniting by the interpoſition of proper ſubſtances, or combined with mineral acids, it has very powerful effects; affording the moſt violent poiſons, and the moſt excellent remedies with which we are acquainted.

The mercurial preparations, either given internally or introduced into the habit by external applica-

tion, seem to forward circulation through even the minutest and most remote vessels of the body; and may be so managed as to promote excretion through all the emunctories. Hence their common use in inveterate chronic disorders, and obstinate obstructions of the excretory glands; in scrophulous and cutaneous diseases; and in the venereal lues. If their power be not restrained to certain emunctories, they tend chiefly to affect the mouth; and occasion a plentiful evacuation from the salival glands.

The salutary effects of mercurials do not depend on the quantity of sensible evacuation. This medicine may be gradually introduced into the habit, so as, without occasioning any remarkable discharge, to be productive of very happy effects. To answer this purpose, it should be given in very small doses, in conjunction with such substances as determine its action to the kidneys or the pores of the skin. By this method inveterate cutaneous and venereal distempers have been cured, without any other sensible excretion than a gentle increase of perspiration or urine. Where there are ulcers in any part, they discharge for some time a very fetid matter, the quantity of which becomes gradually less, and at length the ulcer kindly heals. If the mercury should at any time, from cold, or the like, affect the mouth, it may be restrained by omitting a dose, and by warmth or suitable medicines promoting the perspiration.

Cooling purgatives are also often employed with advantage; but perhaps the most effectual means of giving with safety a sudden check to a mercurial salivation is by the application of a large blister to the back.

Mercury, as used in medicine, has been employed in a very great variety of different forms. Of the particular preparations directed by the London and Edinburgh colleges, we shall afterwards have occasion to treat: but to give a full and comprehensive view of all the mercurial preparations, we shall here subjoin a table in which they are systematically arranged.

Dr Schwediauer's TABLE of the PREPARATIONS OF MERCURY, arranged according to Bergman's Table of Elective Attractions. Those marked with the asterism are chiefly in use.

I. PREPARATION where the Mercury is simply purified.

* *Hydrargyrum purificatum.*
Mercurius crudus purificatus *officinarum.*
Argentum vivum purificatum. *Pharm. Lond.*
Anglis, Quicksilver, crude purified Mercury; *Germanis*, Reines queckſilber; *Gallis*, Mercure pure.

II. PREPARATIONS in which the Mercury is only divided.

1. By gums or mucilages; such as gum arabic, tragacanth, &c.

* *Hydrargyrum gummosum.*
Mercurius gummosus of *Plenck*, (the inventor)
COMPOSITA.
* *Pilulæ ex hydrargyro gummoso.*
Pilulæ ex mercurio gummoso. *Plenck. Pharm. Chir.*
Solutio mercurialis gummosa. *Ibid.*
Mixtura mercurialis, *Pharm. Nosocom. Sti. Georgii.*
Potio Mercurialis. *Dispensatorii Novi Brunsvicensis.*
Lac mercuriale. *Plenck.*
Syrupus hydrargyri. *Pharmac. Suec.*

2. By resins or balsams; such as turpentine, balsamum copaiva, &c.

* *Hydrargyrum terebinthinatum*, &c.
COMPOSITA.
* *Pilulæ ex hydrargyro terebinthinato.*
Pilulæ

Pilulæ mercuriales. *L.*
Pilulæ mercuriales laxantes. *G.*
Pilulæ mercuriales ſialogogæ. *Pharm. Danic.*
Injectio mercurialis. *Pharm. Edinb. Pauperum.*

3. By ſuet or vegetable oils; ſuch as hog's lard, gooſe-fat, or butter of cocoa nuts.

* *Hydrargyrum unguinoſum.*
* *Unguentum hydrargyri.*
Unguentum ex hydrargyro cæruleum. *E.*
Unguentum mercuriale, ſeu unguentum Neapolitanum. *Pharmac. Auſtriaco-Provinciales.*

COMPOSITA.

α Unguentum cæruleum fortius. *L.*
Unguentum cæruleum mitius. *L.*
Unguentum mercuriale. *D.*
β Ceratum mercuriale. *L.*
γ Emplaſtrum mercuriale. *O.*
Emplaſtrum ex hydrargyro. *E.*
Emplaſtrum ex gummi ammoniaco cum mercurio. *L.*
Emplaſtrum commune cum mercurio. *L.*
Emplaſtrum de ranis cum mercurio. *A.*

4. By calcareous earth; ſuch as chalk, chelæ cancrorum, &c.

Mercurius cum creta. *L.*
Mercurius alkaliſatus.
Pulvis mercurialis. *G.*

II. PREPARATIONS where the Mercury is calcined by heat and air.

* *Hydrargyrum calcinatum.*
Mercurius calcinatus. *L. S.*
Mercurius præcipitatus per ſe. *L.*

COMPOSITA.

* *Pilulæ ex hydrargyro calcinato.*
Pilulæ ſyphiliticæ. *Pharm. Noſoc. Sti Thomæ.*
Pilulæ ex mercurio calcinato anodynæ. *G.*

V. PREPARATIONS where the mercury is partly divided and diſſolved.

1. By ſugar candy, or ſaccharine compoſitions; ſuch as conſerva roſarum, cynoſbati, &c.

* *Saccharum hydrargyratum.*

COMPOSITA.

* *Bolus ex hydrargyro ſaccharato.*
Bolus cæruleus. *Th.*
Bolus mercurialis. *G.*

2. Honey.

* *Mel hydrargyratum.*

COMPOSITA.

Pilulæ Æthiopicæ. *E.*
Pilulæ mercuriales purgantes. *E. Paup*
Pilulæ Belloſti.

3. Mercury combined with ſulphur, (flowers of brimſtone).

* *Hydrargyrum ſulphuratum.*

a. By ſimple trituration or fuſion.

* *Hydrargyrum ſulphuratum nigrum.*
Æthiops mineralis. *O.*

COMPOSITA.

Pulvis Æthiopicus. *G.*

b. By ſublimation.

* *Hydrargyrum ſulphuratum rubrum.*
Cinnabaris factitia, ſeu artificialis. *O.*

COMPOSITA.

Pulvis antilyſſus Sinenſis. *O.*

4. Mercury combined with ſulphur of antimony.

a. By ſimple trituration.

* *Sulphur antimonii hydrargyratum nigrum.*
Æthiops antimonialis. *O.*

COMPOSITA.

Pilulæ Æthiopicæ. *E. D.*

b. By ſublimation.

Sulphur antimonii hydrargyratum rubrum.
Cinnabaris antimonii. *O.*

COMPOSITA.

Bolus Cinnabarinus. *G.*

5. Mercury combined with ſulphur by precipitation.

[See below under the *Preparations with the vitriolic acid.*]

V. PREPARATIONS where the mercury is reduced to the form of a metallic ſalt or calx by acids.

1. Acid of ſuet. 2. Acid of common ſalt. 3. Acid of ſugar. 4. Acid of amber. 5. Acid of arſenic. 6. Acid of wood ſorrel. 7. Acid of phoſphorus. 8. Acid of vitriol. 9. Acid of ſugar of milk. 10. Acid of tartar. 11. Acid of citron or lemon 12. Acid of nitre. 13. Acid of fluor mineral 14 Acid of vinegar. 15. Acid of borax. 16. Acid of Berlin blue. 17. Aerial acid.

1. Mercury combined with acid of ſuet (acidum ſebi.)
Hydrargyrum Sebinum.

2. Mercury combined with the muriatic acid; or acid of common salt.

* a. *Hydrargyrum muriatum.*

* *Hydrargyrum muriatum fortius.* { By sublimation, or by precipitation

Mercurius sublimatus corrosivus. *O.*

Mercurius sublimatus albus. *O.*

Mercurius corrosivus albus. *S. L.*

Mercurius corrosivus via humida paratus. *Monnet.*

COMPOSITA.

Solutio sublimati spirituosa of *Van Swieten.*

Solutio mercurii sublimati corrosivi. *E.*

Mixtura mercurialis. *S.*

Mercurius sublimatus solutus. *G.*

* *Solutio hydrargyri saliti fortioris aquosa.*

Pilulæ e mercurio corrosivo albo. *S.*

Lotio syphilitica flava, (lotio ex hydrargyro muriato fortiori.)

Aqua phagedenica. *O.*

Liquor mercurialis. *A.*

Lotio mercurialis. *Th.*

Solutio sublimati balsamica. *Plenck.*

* *Liquor ad condylomata.*

Aqua caustica pro condylomatibus. *Plenck.*

b. *Calx hydrargyri muriata*, i. e. the calx of mercury united with some muriatic acid.

By sublimation.

* *Hydrargyrum muriatum mitius.*

Mercurius dulcis (sublimatione paratus) *O.*

Mercurius dulcis sublimatus *L.*

Calomel seu calomelas. *L.*

Aquila alba.

Panacea mercurialis.

Mercurius dulcis lunaris. *Schroeder.*

COMPOSITA.

Bolus mercurialis. *E.*

Bolus jalapæ cum mercurio. *Ibid.*

Bolus rhei cum mercurio. *Ibid.*

Pilulæ calomelanos. *G.*

Pilulæ Plummeri. *E.*

Pilulæ alterantes Plummeri. *O.*

Pilula depurans *Th.*

Pulvis Plummeri. *O.*

Pilulæ mercuriales purgantes. *A.*

Pilulæ catarrhales purgantes. *D.*

Pilulæ laxantes cum mercurio. *Ibid.*

Pulvis e scammonio cum mercurio. *Th.*

* *Lotio syphilitica nigra, (lotio ex hydrargyro muriato mitiori.)*

Lotio mercurialis. *G.*

By precipitation.

a. From its solution in nitrous acid by common salt.

* *Calx hydrargyri muriata Schelii.*

Mercurius præcipitatus dulcis of *Scheele*, (the inventor.)

b. From its solution in muriatic acid by vegetable alkali.

Mercurius præcipitatus albus. *L.*

c. From its solution in muriatic acid by mineral alkali.

Mercurius præcipitatus albus. *A.*

d. From its solution in muriatic acid by volatile alkali.

Mercurius præcipitatus albus. *E.*

e. From its solution in muriatic acid by copper.

Mercurius præcipitatus viridis. *E.*

COMPOSITA.

Unguentum e mercurio præcipitato. *L.*

Linimentum mercuriale. *E. Paup.*

3. With the acid of sugar.

Hydrarg. saccharatum. *Bergman.*

4. With the acid of amber.

Hydrarg. succinatum. *Bergman.*

5. With the acid of arsenic.

Hydrarg. arsenicatum. *Bergman.*

6. With the acid of wood-sorrel, (oxalis acetosa Linnæi.)

Hydrargyrum oxalinum. *Bergman.*

7. With phosphoric acid.

Hydrargyrum phosphoratum. *Bergman.*

By precipitation from its solution in the nitrous acid by recent urine.

Rosa mineralis. *O.*

8. With the vitriolic acid.

* a. *Hydrargyrum vitriolatum.*

Vitriolum mercurii. *O.*

Oleum mercurii. *O.*

b. *Calx hydrargyri vitriolata (flava.)*

Turpethum minerale. *O.*

Mercurius emeticus flavus. *L.*

Mercurius flavus. *E.*

Mer-

Mercurius præcipitatus luteus. *D.*
Turpethum nigrum. *O.*

c. Mercury precipitated from its ſolution in nitrous acid by hepar ſulphuris or hepar calcis.
Mercurius præcipitatus niger. *O.*

9. With the acid of ſugar of milk.

10. With the acid of tartar.

a Hydrarg. tartariſatum. *Bergman*

b. With purified tartar, commonly called *cream of tartar, (veg. alkali ſuperſaturated with the acid of tartar.)*

* *Tartarus hydrargyratus.*
Terre fuilletee mercurielle of Dr *Preſſavin*, (the inventor.)

c. Mercury precipitated from its ſolution in nitrous acid by the acid of tartar.

* *Calx hydrargyri tartariſata flava; vulgo*, Pulvis Conſtantinus.

d. Mercury precipitated from its ſolution in muriatic and tartarous acid by fixed vegetable alkali.

* *Calx hydrargyri tartariſata alba; vulgo*, Pulvis argenteus.

11. With the acid of citron.
Hydrargyrum citratum. *Bergman.*

12. With the acid of nitre.

* *Hydrargyrum nitratum.*

A. Simply diſſolved.

* *Acidum nitri hydrargyratum*, ſolutio mercurii. *E.*

COMPOSITA.
Unguentum citrinum. *E. A. S.*

B. Evaporated and calcined by fire.

* *Hydrargyrum nitratum rubrum.*
Mercurius corroſivus ruber. *L. E.*
Mercurius præcipitatus ruber. *O.*
Pulvis principis. *O.*
Mercurius corralinus. *L.*
Mercurius tricolor. *O.*
Panacea mercurii. *O.*
Arcanum corralinum. *O.*
Panacea mercurii rubra. *O.*

COMPOSITA.
Balſamus mercurialis. *Plenck.*
Unguentum ophthalmicum. *St. Yves.*
Balſamum ophthalmicum rubrum. *D.*
Unguentum præcipitatum. *G.*
Unguentum ad lippitudinem. *Th.*
Unguentum mercuriale rubrum. *D.*
Unguentum pomatum rubrum. *D.*

C. Precipitated from its ſolution in nitrous acid.

a. By volatile alkali.

* *Hydrargyrum nitratum cinereum.*
Pulvis mercurii cinereus. *E.*
Turpethum album. *O.*
Mercurius præcipitatus dulcis. *O.*

COMPOSITA.
Dr Ward's white drops (mercury precipitated by nitrous acid, and rediſſolved by ſal ammoniac.)
Vegetable ſyrup.
Syrup de *Bellet.*

b. By vinous volatile alkali, (ſpiritus ſalis ammoniaci vinoſus.)
Turpethum nigrum.
Mercurius præcipitatus niger.

c. By fixt vegetable alkali.
Mercurius præcipitatus fuſcus. *Wurtz.*

d. By copper.
Mercurius præcipitatus viridis. *B.*

13. With the acid of ſpar, (fluor mineralis.)
Hydrargyrum fluoratum. *Bergman.*

14. With the acid of vinegar.
Hydrargyrum acetatum. *Bergman.*

COMPOSITA.
Troches or pills of *Keyſer.*

15. With the acid of borax.
Hydrargyr. boraxatum. *Bergman.*

16. With the acid of Berlin blue.

17. With the acid of Molybdæna.

18. With the acid of tungſtone.

19. With the aerial acid, (fixt air).
Hydrargyrum aeratum. *Bergman.*

Notwithſtanding this immenſe number of mercurial preparations, there is reaſon to believe, that every uſeful purpoſe to be anſwered by mercury may be obtained from a very few. The mercurial preparations

tions in general, with a view to their use both externally and internally, may be divided into two great classes, the mild and the acrid. Almost every purpose to be answered by the former, may be accomplished by the unguentum hydragyri and pilulæ ex hydrargyro of the London and Edinburgh pharmacopœias; while most of the effects to be obtained from the latter may be derived from the proper use of those preparations, hitherto generally known under the title of Calomel and Corrosive Sublimate Mercury.

The marks of pure mercury are, its globules not losing their spherical figure when poured on wood; its not communicating a tinge to water, or sweetness to vinegar, when rubbed with them; its evaporating entirely in an iron spoon over the fire; and its having a shining appearance without any pellicle on its surface. Mercury is best purified by distillation in an iron pot, with a long neck bent and immersed in vinegar.

Quicksilver has sometimes been used in its pure metallic state, with the view of removing obstruction in the alimentary canal, from an idea that it would operate by its weight. But it is seldom attended with a good effect, and sometimes it must do harm.

Whole volumes have been written respecting its operation and use in different diseases, and particularly in venereal affections. Some refer its operation to an evacuant power, others to its operating as a peculiar stimulus, and a third set to its possessing a power of destroying or neutralizing the venereal virus. Of these opinions, the latter is the most generally received, and perhaps the best founded. But for a more full view of the controversy, we may refer our readers to late publications on the venereal disease, and on mercury, by Mr John Hunter, Dr Schwediauer, and Dr Duncan.

In virulent gonorrhœa, it is doubted whether mercury be necessary. This disease is commonly treated like any similar inflammation: and the chief things attended to are cleanliness of the parts, a regular belly, and an abstinence from every thing stimulant in food, drink, &c. An injection of oil with calomel, or white precipitate, is much used, and some prefer a watery solution of opium. The more active injections have sometimes very disagreeable consequences.

When the constitution is affected, which is known by ulcers on the glans, buboes, ulcers in the mouth or throat, copper coloured spots and ulcers on the surface, nodes, &c. mercury is thrown into the body either by friction or by the mouth. The general rule is, to keep up a slight soreness of the gums for some short time after the symptoms disappear; at the same time it is to be remembered, that mercury sometimes continues gleets, and induces ulcers, that are difficultly distinguished from venereal ones; and that these last only yield to warm bathing, diaphoretic diluents, opiates, country air, and milk diet. Corrosive sublimate is sometimes used, as more speedily arresting disagreeable, spreading, or dangerous ulcers; but the completion of the cure should always be trusted to the mild preparations alone. Mercury is also used in rabies canina, in worms, in hydrocephalus internus, in tetanus, and is by some considered as an antidote to the variolous matter.

HYDROLAPATHUM

[*Ed.*] *Radix.*

Rumex aquaticus Lin.

Water dock; the root.

The leaves of this dock gently loosen

looſen the belly, and have ſometimes entered decoctions for removing a coſtive habit. The roots manifeſt to the taſte a conſiderable aſtringency; they form an ink with iron, and are celebrated for the cure of ſcorbutic and cutaneous diſorders, both as exhibited internally and applied externally in ointments, cataplaſms, lotions and fermentations. Muntingius publiſhed a treatiſe on this plant in 1681, in which he endeavours to prove, that our great water dock is the herba Britannica of the antients: and indeed the deſcription which Dioſcorides gives of the latter correſponds much with the former. He therefore aſcribes to the hydrolapathum all the virtues formerly attributed to the Herba Britannica, particularly recommending it againſt the ſcurvy and all its ſymptoms.

Where this diſorder is of long ſtanding, ſo as not to yield to the hydrolapathum alone, Muntingius directs a compoſition by the uſe of which, he ſays, that even the venereal diſeaſe will in a ſhort time be effectually cured. The compoſition is formed in the following manner: Six ounces of the roots of the water dock, with two of ſaffron; and of mace, cinnamon, gentian root, liquorice root, and black pepper, each three ounces; or where pepper is improper, ſix ounces of liquorice. Theſe are to be reduced into coarſe powder, and put into a mixture of two gallons of wine, with half a gallon of ſtrong vinegar, and the yolks of three eggs. The whole to be digeſted with a moderate warmth, for three days in a glazed veſſel cloſe ſtopped. From three to ſix ounces of this liquor are to be taken every morning on an empty ſtomach, for fourteen or twenty days or longer; and this is repreſented as a moſt uſeful remedy in ſcorbutic and venereal affections.

HYOSCYAMUS [*Ed.*] *Herba, ſemen.*

Hyoſcyamus niger Lin.

Common black henbane; the herb and ſeeds.

This vegetable grows in great abundance in moſt parts of Britain: it belongs to the natural order of the ſolanaceæ, comprehending the greater part of the narcotic vegetables; and it has long been conſidered as one of the moſt deleterious of them: but notwithſtanding this, there can be no doubt that it proves on many occaſions a very uſeful medicine; and it is to us a matter of great ſurpriſe, that the London college have given it no place in their liſt, eſpecially as ſome of the London practitioners mention it as a remedy which they frequently employ with much benefit.

The ſmell of the hyoſcyamus is ſtrong and peculiar; and the leaves when bruiſed emit ſomewhat of the odour of tobacco. This ſmell is ſtill ſtronger when the leaves are burnt; and on burning they ſparkle with a deflagration, ſomewhat reſembling that of nitre: but to the taſte they ſhew no evident ſaline impregnation. When chewed, they are inſipid, mild, and mucilaginous; yet when taken to any great extent, they produce the moſt alarming effects. They give the appearances of intoxication, attended with wild delirium, remarkable dilatation of the pupils of the eyes, and convulſions. It often produces ſweat, and ſometimes an eruption of puſtules over the ſurface, and generally ſound ſleep, ſucceeded by ſerenity of mind and recruited vigour of the body: but like the other narcotics, inſtead of theſe, it ſometimes gives riſe to vertigo, headach, and general uneaſineſs. With particular individuals it occaſions vomiting, colic pains, a copious flow of urine, and ſometimes purging. Upon the whole, like opium,

opium, it is a powerful anodyne; and like cicuta, it is free from any conſtipating effect, having rather a tendency to move the belly.

From theſe effects it is not ſurpriſing that hyoſcyamus ſhould have been introduced into the practice of medicine; and accordingly, it appears to have been uſed for a variety of purpoſes, both as applied externally and as taken internally, even in the earlieſt periods of medicine. Several different ſpecies of the hyoſcyamus were then employed, as appears from the writings of Dioſcorides and others. Celſus, in particular, was very fond of this medicine; he uſed it externally as a collyrium, in caſes of opthalmia: he employed it topically for allaying the pain of toothach; and he gave it internally, both with the view of mitigating other pains and of producing quiet ſleep.

For a conſiderable length of time, however, thy hyoſcyamus fell almoſt into diſuſe; but the employment of it has of late been revived by Dr Stoerk of Vienna; and it has been uſed both by him, and by many other practitioners with the beſt effects, particularly in thoſe caſes where an anodyne is requiſite, and where an objection occurs to the uſe of opium. Accordingly, it is now employed in many diſeaſes, and in various forms. It is employed for reſolving ſwelling, and allaying pain in caſes of ſcirrhus, under the form of cataplaſm of the leaves, or of a plaſter made from the oil of the ſeeds and powder of the herb, with wax, turpentine, and other articles; or of ointment made of the powder of the leaves with hog's lard. In open ulcers, powder of the leaves ſprinkled on the part has often a good effect.

Internally, the hyoſcyamus is chiefly uſed under the form of an extract from the leaves or from the ſeeds; but, contrary to what happens with cicuta, the former appears to be the moſt powerful. This extract has been given with advantages in a variety of nervous affections, as mania, melancholia, epilepſy, hyſteria; &c. in glandular ſwellings, in obſtinate ulcerations; and in every caſe where it is neceſſary either to allay inordinate action or mitigate pain. In accompliſhing theſe ends, it is often no leſs uſeful than opium; and it often ſucceeds where opium produces very diſagreeable effects, particularly diſtreſſing confuſion of head. The doſe of this extract muſt be accomodated to the circumſtances of the caſe and the patient; and it has been increaſed from half a grain to half a dram in the day; for like opium, its influence is very much diminiſhed by habit.

HYPERICUM [*Lond.*] *Flos.*
Hypericum perforatum Lin.
St John's wort; the flowers.

This plant grows wild in woods and uncultivated places through Britain. Its taſte is rough and bitteriſh, and its ſmell diſagreeable. It abounds with an eſſential oil, which is contained in ſmall veſſicles in the growing plant. Theſe veſicles, when viewed, by holding the plant between the eye and the light, reſemble perforations; and the eſſential oil may be ſeparated to a conſiderable quantity by diſtillation. Hence there can be little doubt that it poſſeſſes active principles. At one period it was much employed and highly celebrated as a corroborant, diuretic, and vulnerary; and it was particularly extolled in hyſterical and maniacal diſorders. It was even reckoned of ſuch efficacy as to have received the ſame of *fuga dæmonum*; but for theſe extraordinary virtues there is probably not much

much foundation; and of late it has been so much neglected as even to lead to its omission in the last edition of the Edinburgh Pharmacopœia.

This plant, however, is probably not without activity; and it is remarkable that the flowery tops tinge expressed oils of a red colour, which very few vegetable substances will do, and communicate a blood red to rectified spirit. The oil tinged by them is kept in the shops.

HYPOCISTIS [*Brun.*] *Succus.*
Cytinus hypocistis Lin.
Hypocistis; the juice.

Hypocistis is a fleshy production, growing in the warmer climates from the roots of different kinds of cisti. Its inspissated juice is an astringent similar to acacia, but somewhat stronger. At present it is scarce otherwise made use of than as an ingredient in some of the old compositions.

HYSSOPUS [*Ed.*] *Herba.*
Hyssopus officinalis Lin.
Hyssop; the herb.

The leaves of hyssop have an aromatic smell, and a warm pungent taste. Besides the general virtues of aromatics, they are particularly recommended in humoral asthmas, coughs, and other disorders of the breast and lungs; and said to promote expectoration; but so little dependence is put upon any property of this kind, that hyssop has now no place in the pharmacopœia of the London college.

JALAPA [*Lond. Ed.*] *Radix.*
Convolvulus jalapa Lin.
Jalap; the root.

Jalap is the root of an American plant, brought to us in thin transverse slices from Xalpa, a province of New Spain. The botanical characters of the vegetable which furnishes it are not absolutely ascertained; hence the London college have given it no Linnæan name. But in the opinion of the best botanists it belongs to the genus of convolvulus. In the London pharmacopœia this article has the name of *jalapium*; but from the derivation of the name, from the authority of the best botanical writers, and from the example of all the other modern pharmacopœias, the term *jalapa*, or *jalappa*, is, we think, to be preferred.

Such pieces should be chosen as are most compact, hard, weighty, dark coloured, and abound most with black circular striæ. Slices of bryony root are said to be sometimes mixed with those of jalap: these may be easily distinguished by their whiter colour, and less compact texture. This root has no smell, and very little taste upon the tongue; but when swallowed, it affects the throat with a sense of heat, and occasions a plentiful discharge of saliva.

Jalap in substance, taken in a dose of about half a dram (less or more, according to the circumstances of the patient) in plethoric, or cold phlegmatic habits, proves an effectual, and in general a safe, purgative, performing its office mildly, seldom occasioning nausea or gripes, which too frequently accompany the other strong cathartics. In hypochondriacal disorders, and hot bilious temperaments, it gripes violently, if the jalap be good; but rarely takes due effect as a purge. An extract made by water purges almost universally, but weakly; and at the same time has a considerable effect by urine: the root remaining after this process gripes violently. The pure resin, prepared by spirit of wine, occasions most violent gripings, and other distressing symptoms, but scarce proves at all cathartic: triturated with sugar, or with

almonds into the form of an emulsion, or dissolved in spirit and mixed with syrups, it purges plentifully in a small dose, without occasioning much disorder: the part of the jalap remaining after the separation of the resin, yields to water an extract, which has no effect as a cathartic, but operates powerfully by urine. Its officinal preparations are an extract made with water and spirit, a simple tincture, and a compound powder.

Frederick Hoffman particularly cautions against giving this medicine to children; and assures us, that it will destroy appetite, weaken the body, and perhaps occasion even death. In this point, this celebrated practitioner was probably deceived; children, whose vessels are lax, and the food soft and lubricating, bear these kinds of medicines, as Geoffroy observes, better than adults; and accordingly innoculators make much use of the tincture mixed with simple syrup. The compound powder is employed in dropsy, as a hydragogue purge; and where stimulus is not contraindicated, jalap is considered at a safe cathartic.

JAPONICA TERRA. Vide CATECHU.

JASMINUM [*Brun.*] *Flos.*
Jasminum officinale Lin.
Jasmine; the flower.

This is a small tree, commonly planted in our gardens. The flowers have a strong smell, which is liked by most people, though to some disagreeable: expressed oils extract their fragrance by infusion; and water elevates somewhat of it in distillation, but no essential oil has hitherto been obtained from them: the distilled water, kept for a little time, loses its odour. As to their medical virtues, the present practice expects not any from them, although they have been recommended for promoting delivery, curing ulcerations of the uterus, &c.

ICHTHYOCOLLA [*Lond.*]
Ising-glass, or fish-glue.

This is a solid glutinous substance, obtained from a large kind of fish caught in the seas of Muscovy. The skin and some other parts of the animal are boiled in water, the decoction is inspissated to a proper consistence, and then poured out so as to form thin cakes; these are either farther exsiccated till perfectly dry, or cut while soft into slices, which are afterwards bent, or rolled up into spiral, horseshoe, and other shapes. Some allege it consists of certain membranous parts of fishes, as the air-bladder, intestines, &c. only cleansed, dried, and rolled up or twisted. This glue is more employed for mechanical purposes than in medicine. It may be given in the same manner as the vegetable gums and mucilages; regard being had to their different disposition to putrescence.

It is also sometimes employed externally, with a view to its action as a glue, and is probably the principal constituent of the black sticking plaster, or court plaster, as it is commonly called.

IMPERATORIA [*Ed.*] *Radix.*
Imperatoria ostruthium Lin.
Masterwort; the root.

This is a native of the Alps and Pyrenean mountains, and some parts of Germany, from whence we are supplied with roots superior in aromatic flavour to those raised in our gardens. The smell of this root is very fragrant; its taste bitterish, warm and pungent, glowing in the mouth for a long time after it has been chewed. This root, though

un-

undoubtedly an elegant aromatic, is not regarded in the preſent practice; and accordingly it has no place in the London pharmacopœia; but it is ſtill retained by the Edinburgh college, as well as in moſt of the foreign pharmacopœias. Its flavour is ſimilar to that of angelica, but ſtronger.

IPECACUANHA [*Land. Ed.*] *Radix.*

Pſychotria emetica Lin.

Ipecacuan; the root.

The vegetable from which this root is obtained is not with certainty determined, any more than that furniſhing the jalap; but on the authority of the younger Linné, in the ſupplement which he publiſhed to his father's work, the Edinburgh college conſider it, and probably with juſtice as being the produce of a ſpecies of the pſychotria.

The root is brought from the Spaniſh Weſt Indies. It is divided into two ſorts, Peruvian and Brazilian; but the eye diſtinguiſhes three, aſh coloured or grey, brown, and white. The aſh-coloured, or Peruvian ipecacuan of the ſhops, is a ſmall wrinkled root, bent and contorted into a great variety of figures, brought over in ſhort pieces full of wrinkles and deep circular fiſſures, quite down to a ſmall white woody fibre that runs in the middle of each piece: the cortical part is compact, brittle, looks ſmooth and reſinous upon breaking: it has very little ſmell; the taſte is bitteriſh and ſubacrid, covering the tongue as it were with a kind of mucilage. The brown is ſmall, and ſomewhat more wrinkled than the foregoing; of a brown or blackiſh colour without, and white within; this is brought from Brazil. The white ſort is woody, has no wrinkles, and no perceptible bitterneſs in taſte. The firſt ſort, the aſh coloured or grey, ipecacuan, is that uſually preferred for medicinal uſe. The brown has been ſometimes obſerved, even in a ſmall doſe, to produce violent effects. The white, though taken in a large one, has ſcarce any effect at all: Mr Geoffroy calls this ſort baſtard ipecacuan, and complains that it is an impoſition upon the public. Geoffroy, Neumann, Dale, and Sir Hans Sloane, inform us, that the roots of a kind of apocynum (dogsbane) are too frequently brought over inſtead of it; and inſtances are given of ill conſequences following from the uſe of theſe roots: if the marks above laid down, particularly the aſh colour, brittleneſs, deep wrinkles, and bitteriſh taſte, be carefully attended to, all miſtakes of this kind may be prevented.

Ipecacuan was firſt brought into Europe about the middle of laſt century, and an account of it publiſhed about the ſame time by Piſo; but it did not come into general uſe, till about the year 1686, when Helvetius, under the patronage of Lewis XIV. introduced it into practice. This root is one of the mildeſt and ſafeſt emetics with which we are acquainted; and has this peculiar advantage, that if it ſhould not operate by vomit, it paſſes off by the other emunctories. It was firſt introduced among us with the character of an almoſt infallible remedy in dyſenteries, and other inveterate fluxes, as menorrhagia and leucorrhœa, and alſo in diſorders proceeding from obſtructions of long ſtanding: nor has it loſt much of its reputation by time. In dyſenteries, it almoſt always produces happy effects, and often performs a cure in a very ſhort ſpace of time. In other fluxes of the belly, in beginning dyſenteries, and ſuch as are of a malignant kind, or where the patient breathes a tainted air, it has not been found equally ſucceſsful: in theſe caſes it

is neceſſary to continue the uſe of this medicine for ſeveral days, and to join with it opiates, diaphoretics, and the like. This root, given in ſubſtance, is as effectual, if not more ſo, than any of the preparations of it: the pure reſin acts as a ſtrong irritating emetic, but is of little ſervice in dyſenteries; whilſt an extract prepared with water is almoſt of equal ſervice in theſe caſes with the root itſelf, though it has little effect as an emetic. Geoffroy concludes from hence, that the chief virtue of ipecacuan in dyſenteries depends upon its gummy ſubſtance, which lining the inteſtines with a ſoft mucilage, when their own mucus has been abraded, occaſions their exulcerations to heal, and defends them from the acrimony of the juices: and that the reſinous part, in which the emetic quality reſides, is required, where the morbific matter is lodged in the glands of the ſtomach and inteſtines. But if the virtues of this root were entirely owing to its mucilaginous or gummy part, pure gums, or mucilages, might be employed to equal advantage. Water, aſſiſted by a boiling heat, takes up from all vegetables a conſiderable portion of reſinous along with the gummy matter: if the ipecacuan remaining after the action of water be digeſted with pure ſpirit, it will not yield half ſo much reſin as at firſt; ſo that the aqueous extract differs from the crude root only in degree, being proportionally leſs reſinous, and having leſs effect, both as an emetic, and in the cure of dyſenteries. The virtues of ipecacuan, in this diſorder, depend upon its promoting perſpiration, the freedom of which is here of the utmoſt importance, and an increaſe of which, even in healthy perſons, is generally obſerved to ſuppreſs the evacuation by ſtool. In dyſenteries, the ſkin is for the moſt part dry and tenſe, and perſpiration obſtructed: the common diaphoretics paſs off without effect through the inteſtinal canal: but ipecacuan, if the patient after a puke or two be covered up warm, brings on a plentiful ſweat. After the removal of the dyſentery, it is neceſſary to continue the uſe of the medicine for ſome time longer, in order to prevent a relapſe; for this purpoſe, a few grains divided into ſeveral doſes, ſo as not to occaſion any ſenſible evacuation, may be exhibited every day; by this means the cure is effectually eſtabliſhed. And indeed ſmall doſes given, even from the beginning, have been often found to have better effect in the cure of this diſeaſe than larger ones. Geoffroy informs us from his own experience, that he has obſerved ten grains of the powder to act as effectually as a ſcruple or two; and therefore confines the doſe to between ſix and ten grains: it has lately been found, that even ſmaller doſes prove ſufficiently emetic. The only officinal preparation of this root is a tincture made in wine, which accordingly has now the appellation of *vinum ipecacuanhæ*, both in the London and Edinburgh pharmacopœias.

Many ingenious experiments have been made on the ſubject of ipecacuan by Dr Irving, for which he obtained the prize medal of the Harveian Society at Edinburgh for 1784. He has aſcertained, that while this root contains a gummy reſinous matter, yet that the gummy exiſts in a much greater proportion than the reſinous part; that the gummy part is much more powerfully emetic than the reſinous; that although the cortical part of the root be more active than the ligneous, yet that even the pure ligneous part poſſeſſes a conſiderable emetic power; and that the whole of the

root poſſeſſes conſiderable influence, both as an antiſceptic and aſtringent. To determine whether the emetic power of ipecacuan was of a volatile or fixed nature, Dr Irvine ſubjected it to diſtillation. The water obtained by diſtillation was found to have very little influence; but the decoction which remained in the ſtill, not only operated violently as an emetic, but produced rigours, cold ſweats, and other alarming ſymptoms. By long continued boiling, the activity of the root itſelf is almoſt totally deſtroyed; but Dr Irvine found, that the emetic property of ipecacuan was moſt effectually counteracted by means of the acetous acid; inſomuch that thirty grains of the powder taken in two ounces of vinegar, produced only ſome looſe ſtools.

Ipecacuan, particularly in the ſtate of powder, is now advantageouſly employed in almoſt every diſeaſe in which full vomiting is indicated; and when combined with opium under the form of the pulvis ſudorificus, it furniſhes us with the moſt uſeful and active ſweating medicine which we poſſeſs. It is alſo often given with advantage in very ſmall doſes, ſo as neither to operate by vomiting, purging, nor ſweating.

The full doſe of the powder is a ſcruple, or half a dram, and double that in form of watery infuſion. The full doſe is recommended in the paroxyſm of ſpaſmodic aſthma, and a doſe of three or four grains every morning in habitual aſthmatic indiſpoſition. A doſe of $\frac{1}{4}$ or $\frac{1}{2}$ grain rubbed with ſugar, and given every four hours or oftener is recommended in uterine hemorrhagy, cough, pleuriſy, hæmoptoe, &c. and has often been found highly ſerviceable.

IRIS FLORENTINA.

[*Lond. Ed.*] *Radix.*

Iris Florentina Lin.

Florentine orris; the root.

Several varieties of iris are cultivated in our gardens on account of the elegance of their flowers; but the Florentine orris is what is chiefly employed for medicinal purpoſes. The roots, when recent, have a bitter, acrid, nauſeous taſte, and taken internally, prove ſtrongly cathartic; and hence the juice is recommended in dropſies, in the doſe of three or four ſcruples. By drying they loſe this quality, yet ſtill retain a ſomewhat pungent, bitteriſh taſte: their ſmell in this ſtate is of the aromatic kind; thoſe produced in the warmer climates have a very grateful flavour, approaching to that of March violets: hence the uſe of the Florentine orris in perfumes, and for flavouring liquors; the ſhops employ it in the white pectoral troches, or *trochiſci amyli*, as they are ſtyled.

IRIS PALUSTRIS. [*Ed.*]

Radix.

Iris pſeudacorus Lin.

Yellow water-flag; the roots.

This plant grows in great abundance by the brinks of rivers, and in other watery places: the root has an acrid taſte; and when freſh, is ſtrongly cathartic. The expreſſed juice, given to the quantity of ſixty or eighty drops every hour or two, and occaſionally increaſed, has been productive of very copious evacuation, after jalap, gamboge, and other ſtrong purgatives had proved ineffectual; and it is in this form that it is alone uſed; for by drying it entirely loſes its purgative effects. But although this article ſtill retains a place in the Edinburgh pharmocopœia, and under proper management might probably furniſh an uſeful medicine, yet it is at preſent very little employed.

JU-

JUGLANS [*Lond.*] *Fructus immaturus.*

Juglans regia Lin.

Walnut; the unripe fruit.

The kernel of the fruit is similar in quality to almonds: the shell is astringent: but neither of them is at present much employed in medicine among British practitioners, although it still retains a place in most of the foreign pharmacopœias, as well as in that of the London college.

JUJUBA [*Brun.*] *Baccæ.*

Rhamnus zizyphus Lin.

Jujubes; the fruit.

Jujubes have a pleasant sweet taste. They are recommended in an acrimonious state of the fluids; in coughs from thin sharp defluxions; and in heat of urine; but they are at present, among us, a stranger in medicinal practice, and even in the shops.

JUNIPERUS [*Lond. Ed.*] *Bacca, cacumen.*

Juniperus communis Lin.

Juniper; the berry and top.

This is an ever-green shrub growing upon heaths and hilly grounds in all parts of Europe: the wood and resin are not at present made use of for medicinal purposes: the berries are brought from Holland and from Italy, where this shrub is very plentiful. The Italian berries are in general reckoned the best.

Juniper berries have a strong, not disagreeable smell, and a warm, pungent sweet taste, which if they are long chewed, or previously well bruised, is followed by a bitterish one. The pungency seems to reside in the bark; the sweet in the juice; the aromatic flavour in oily vesicles, spread through the substance of the pulp, and distinguishable even by the eye; and the bitter in the seeds: the fresh berries yield, on expression, a rich, sweet, honey-like, aromatic juice; if previously pounded so as to break the seeds, the juice proves tart and bitter.

The berries are good carminatives and stomachics, and are diuretic; for these purposes a compound spirit and essential oil distilled from them are kept in the shops: the liquor remaining after the distillation of the oil, passed through a strainer, and gently exhaled to the consistence of a rob, proves likewise a medicine of great utility, and in many cases is perhaps preferable to the oil or berry itself. Hoffman is expressly of this opinion, and strongly recommends it in debility of the stomach and intestines, and says it is particularly of service to old people who are subject to these disorders, or labour under a difficulty with regard to the urinary excretion. This rob is of a dark brownish yellow colour, a balsamic sweet taste, with a little of the bitter, more or less according as the seeds in the berry have been more or less bruised. But perhaps one of the best forms under which they can be used, is that of a simple watery infusion. This, either by itself or with the addition of a small quantity of gin, is a very useful drink for hydropic patients. An infusion of the tops has also been advantageously employed in the same manner.

KERMES [*Brun.*] *Grana, succus.*

Coccus, quercus coccifera Lin.

Kermes; the grains.

These grains appear, when fresh, full of small reddish ovula, or animalcules, of which they are the nidus. On expression they yield a red juice, of a bitterish, somewhat rough and pungent taste, and a not unpleasant smell: this is brought to

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us from the south of France. The grains themselves are cured by sprinkling with vinegar before exsiccation: this prevents the exclusion of the ova, and kills such of the animals as are already hatched; otherwise they change into a winged insect, leaving the grain an empty husk.

Kermes, considered as a medicine, is a grateful, very mild restringent, and corroborant. In this light it was looked upon by the Greeks: the Arabians added a cordial virtue: European writers also have in general recommended it for exhilarating the spirits, and against palpitations of the heart: they have also been particularly recommended, but without any good foundation, for promoting birth, and preventing abortion. I have known, says Geoffroy, many women, who had never reached the end of pregnancy, made joyful mothers by the use of pills composed of *kermes*, *germin. ovor. exsicat.* and *confectio de hyacyntho* (a composition containing some vegetable astringents and aromatics, together with gold and silver leaf, four precious stones, and other ingredients of less value:) three of these pills must be taken for the first dose, and this repeated three times, at the interval of two or three hours; after which three pills more are to be taken every morning on the three last days of the moon in every month till delivery. Notwithstanding this assertion, we conceive our readers will with us believe, that neither the kermes nor its auxiliaries are to be much depended on.

KINO [*Lond. Ed.*] *Gummi resina.*

Gummi rubrum astringens Gambiense.

Kino; the gum-resin.

Kino was first recommended to the attention of medical practitioners by Dr Fothergill, as being a very useful vegetable astringent; and in the hands of other practitioners it has been so far found to answer the character he gave of it, that it is now in very common use. It has a considerable resemblance to the catechu; but is much more of a resinous nature, and of a less firm texture: it is also redder and more astringent; its watery solution more decomposable by acids, and its ink less permanent. Its colouring and astringent matter are more perfectly taken up by spirit than by water, though water readily enough extracts a considerable share of both. It is used as an astringent in diarrhœa, hæmorrhagies, &c. In proof spirit it forms an elegant tincture; and it is a principal ingredient in the pulvis stypticus and some other officinal compositions.

LAC [*Ross.*]

Milk.

Milk is a secretion peculiar to women, and the females of the order of mammalia. It may be considered as a kind of emulsion, consisting of butter, cheese, and whey; the whey containing a mucilaginous sugar, which keeps the butter and cheese in union with its water; and it is from this sugary part that milk is subject to the vinous fermentation, as in the Russian koumis, a vinous liquor made of mares milk, and recommended in phthisis and cases of weakness.

New milk mixes uniformly with common water, the mineral chalybeate waters, wines, and malt liquors that are not acid, weak vinous spirits, solutions of sugar, soaps, and neutral salts; but not with oils expressed or distilled. Acids both mineral and vegetable coagulate it; as also do fixt and volatile alkalies, and highly rectified spirit

ſpirit of wine: the curd made by acids is in part reſolved again by alkaline liquors; as that made by alkalies likewiſe is by acids. Neutral ſalts, nitre in particular, preſerve it from coagulating ſpontaneouſly; and likewiſe render it leſs eaſily coagulable by acids.

The human milk is the ſweeteſt of theſe liquors, and that of aſſes next to it: this laſt is the moſt dilute of them all; on ſuffering it to coagulate ſpontaneouſly, the curd ſcarce amounted to two drams from twelve ounces, while that of cows milk was five times as much: the coagulum of aſſes milk, even when made by acids, forms only into fine light flakes, which ſwim in the ſerum; that of goats milk concretes into more compact maſſes, which ſink.

Upon evaporating twelve ounces of	There remained of dry matter. drams,	From which water extracted a ſweet ſaline ſubſtance, amounting, when exſiccated, to drams,
Cows milk	13	$1\frac{1}{2}$
Goats milk	$12\frac{1}{2}$	$1\frac{1}{2}$
Human milk	8	6
Aſſes milk	8	6

The ſaline ſubſtance obtained from aſſes milk was white, and ſweet as ſugar; thoſe of the others brown or yellow, and conſiderably leſs ſweet; that of cows milk, the leaſt ſweet of all. It appears, therefore, that aſſes milk contains more ſerum, and much more of a ſaccharine ſaline matter than thoſe of cows and goats; and that the two latter abound moſt with unctuous groſs matter: hence theſe are found to be moſt nutritious, while the firſt proves moſt effectual as an aperient and detergent.

The inſpiſſated reſiduum of milk, digeſted with about as much water as was waſted in the evaporation, yields an elegant kind of whey, more agreeable in taſte, and which keeps better than that made in the common manner. This liquor promotes the natural ſecretions in general; and, if its uſe is duly continued, does good ſervice in ſcorbutic and other diſorders.

There are conſiderable differences in the milk of the ſame animal, according to its different aliment. Dioſcorides relates, that the milk of goats, who feed on the ſcammony plant and ſpurges, proved cathartic: and examples are given in the Acta Haffnienſia of bitter milk from the animal having eaten wormwood. It is a common obſervation, that cathartics and ſpirituous liquors given to a nurſe, affect the child: and that the milk of animals feeding on green herbs, is much more dilute than when they are fed with dry ones. Hoffman, from whom moſt of the foregoing obſervations are taken, carries this point ſo far, as to direct the animal to be dieted according to the diſeaſe for which its milk is to be drank.

LACCA [*Suec.*] *Gummi reſina. Croton lacciferum Lin.*

Lac, the gum-reſin.

This is a ſort of wax of a red colour, collected in the Eaſt Indies by certain inſects, and depoſited on ſticks faſtened for that purpoſe in the earth. It is brought over, either adhering to the ſticks, or in ſmall tranſparent grains, or in ſemi-

tranſparent

transparent flat cakes; the first is called *stick lac*, the second *seed lac*, and the third *shell lac*. On breaking a piece of stick lack, it appears composed of regular cells like the honeycomb, with small corpuscles of a deep red colour lodged in them: these are the young insects, and to these the lac owes its tincture; for when freed from them, its colour is very dilute. The shell and seed lacs, which do not exhibit any insects or cellular appearance upon breaking, are supposed to be artificial preparations of the other: the seed sort is said to be the stick lac bruised and robbed of its more soluble parts; and the shell to be the seed lac, melted and formed into cakes. The stick lac therefore is the genuine sort, and ought alone to be employed for medicinal purposes. This concrete is of great esteem in Germany, and other countries, for laxity and sponginess of the gums, proceeding from cold or a scorbutic habit: for this use the lac is boiled in water, with the addition of a little alum, which promotes its solution: or a tincture is made from it with rectified spirit. This tincture is recommended also internally in the fluor albus, and in rheumatic and scorbutic disorders: it has a grateful smell, and a pleasant, bitterish, astringent taste. The principal use of lac among us is in certain mechanic arts as a colouring drug, and for making sealing wax.

LACTUCA SATIVA [*Brun.*] *Folia, semina.*

Lactuca sativa Lin.

Garden lettuce; the leaves and seeds.

The several sorts of garden lettuces are very wholesome, emolient, cooling salad herbs, easy of digestion, and somewhat loosening the belly. Most writers suppose that they have a narcotic quality; and indeed, in many cases, they contribute to procure rest; this they effect by abating heat, and relaxing the fibres. The seeds are in the number of the four lesser cold seeds.

Lactuca virosa Lin.

Strong scented wild lettuce.

This plant which is indigenous in Britain, and grows in some places in considerable abundance, differs very essentially in its qualities from the garden lettuce. Although it has not been introduced into any of the modern pharmacopœias, yet it has of late been highly extolled for some purposes in medicine.

It smells strongly of opium, and resembles it in some of its effects; and its narcotic power, like that of the popy heads, resides in its milky juice. An extract from the expressed juice, is recommended in small doses in dropsy. In dropsies of long standing, proceeding from visceral obstructions, it has been given to the extent of half an ounce a day. It is said to agree with the stomach, to quench thirst, to be gently laxative, powerfully diuretic, and somewhat diaphoretic. Plentiful dilution is allowed during its operation. Dr Collin of Vienna asserts, that out of 24 dropsical patients, all but one were cured by this medicine.

LADANUM [*Lond.*] *Resina.*

Cistus creticus Lin.

Ladanum; the gum resin.

This resin is said to have been formerly collected from the beards of goats who brouzed the leaves of the cistus: at present a kind of rake, with several straps or thongs of skins fixed to it, is drawn lightly over the shrub, so as to take up the unctuous juice, which is afterwards scraped off with knives. It is rarely met with pure, even in the places which produce it; the dust, blown upon the plant by the wind, ming-

ling with the tenaceous juice: the inhabitants are also said to mix with it a certain black sand. In the shops two sorts are met with: the best (which is very rare) is in dark-coloured almost black masses, of the consistence of a soft plaster, which grows still softer upon being handled; of a very agreeable smell, and of a light pungent bitterish taste: the other sort is harder, not so dark coloured, in long rolls coiled up. Rectified spirit of wine almost entirely dissolves pure ladanum, leaving only a small portion of gummy matter which has no taste or smell: and hence this resin may be thus excellently purified for internal purposes. It is an useful ingredient in the stomachic plaster, which is now indeed styled the *emplastrum ladani*.

LAMIUM [*Brun.*] *Herba, flores.*

Lamium album Lin.

Dead nettle; the leaves and flowers.

This grows wild in hedges; and flowers in April and May. The flowers have been particularly celebrated in uterine fluors and other female weaknesses, and also in disorders of the lungs; but they appear to be of very weak virtue; and they are at present so little used in Britain as to have now no place in our pharmacopœias.

LAPATHUM, vide HYDROLAPATHUM.

LAVENDULA [*Lond. Ed.*] *Spicæ florentes.*

Lavendula spica Lin.

Lavender; the flowering tops.

There are different varieties of this vegetable, particularly the narrow and broad leaved. The flowers of both have a fragrant smell, to most people agreeable, and a warm, pungent, bitterish taste; the broad-leaved sort is the strongest in both respects, and yields in distillation thrice as much essential oil as the other; its oil is also hotter and specifically heavier; hence in the southern parts of France, where both kinds grow wild, this only is made use of for the distillation of what is called oil of spike. The narrow-leaved is the sort commonly met with in our gardens.

Lavender is a warm stimulating aromatic. It is principally recommended in vertigoes, palsies, tremors, suppression of the menstrual evacuations; and in general in all disorders of the head, nerves, and uterus. It is sometimes also used externally in fomentations for paralytic limbs. The distilled oil is particularly celebrated for destroying the *pediculi inguinales*, and other cutaneous insects: if soft spongy paper dipt in this oil, either alone, or mixed with that of almonds be applied at night to the parts infested by the insects, they will certainly, says Geoffroy, be all found dead in the morning. The officinal preparations of lavender are, the essential oil, a simple spirit, and a compound tincture.

LAURUS [*Lond. Ed.*] *Folium, bacca.*

Laurus nobilis Lin.

Bay; the leaf and berry.

The berries of the bay are generally brought from the Streights, tho' the tree bears the colds of our own climate. They have a moderately strong aromatic smell, and a warm bitterish, pungent taste: the berries are stronger in both respects than the leaves, and afford in distillation a larger quantity of aromatic essential oil; they yield also an almost insipid oil to the press, in consequence of which they prove unctuous in the mouth. These simples are warm car-

carminative medicines, and ſometimes exhibited with this intention againſt flatulent colics, and likewiſe in hyſterical diſorders.

Their principal uſe in the preſent practice is in glyſters, and ſome external applications. The leaves enter our common fomentation; and the berries, the plaſter of cummin: they alſo gave name to an electuary, which was little otherwiſe uſed than in glyſters.

LENTISCUS [*Brun.*] *Lignum.*

Piſtacia lentiſcus Lin.

The lentiſc tree; the wood.

This tree or ſhrub is a native of the warm climates, but bears the common winters of our own. The wood is brought to us in thick knotty pieces, covered with an aſh-coloured bark, and white within, of a rough, ſomewhat pungent taſte, and an agreeable, though faint ſmell; the ſmaller tough ſprigs are both in taſte and ſmell the ſtrongeſt. This wood is accounted a mild-balſamic reſtringent; a decoction of it is in the German ephemerides dignified with the title of vegetable *aurum potabile*, and ſtrongly recommended in catarrhs, naufea, and weakneſs of the ſtomach; for ſtrengthening the tone of the viſcera in general, and promoting the urinary ſecretion.

This is the tree which in the iſland Chio affords the reſin called *maſtich*.

LEVISTICUM [*Suec.*] *Radix, herba, ſemen.*

Ligueſticum leviſticum Lin.

Lovage; the plant, root, and ſeed.

This is a large umbelliferous plant, cultivated with us in gardens. The root nearly agrees in quality with that of angelica: the principal difference is, that the lovage root has a ſtronger ſmell, and a ſomewhat leſs pungent taſte, accompanied with a more durable ſweetneſs: the ſeeds are rather warmer than the root. Theſe ſimples, though certainly capable of being applied to uſeful purpoſes, are not at preſent regarded: neither of them is directed in extemporaneous preſcription, and they have now no place in our pharmacopœias.

LICHEN CINEREUS TERRESTRIS [*Brun.*]

Lichen caninus Lin.

Aſh-coloured ground liverwort.

This conſiſts of pretty thick digitated leaves, flat above, of a reticular texture underneath, and faſtened to the earth by ſmall fibres: the leaves when in perfection are of an aſh colour; by age they become darker-coloured or reddiſh. It is met with on common and open heaths, where it quickly ſpreads on the ground. Dr Mead informs us, that this plant grows in all countries, and has been brought over from America along with the Peruvian bark; that it is found at all times, but ought to be gathered from autumn to winter, as being then in its greateſt vigour.

This ſimple is ſaid to be a warm diuretic; but the taſte diſcovers in it little or no warmth. It is chiefly celebrated for its virtue in the cure of the diſorders occaſioned by the bite of a mad dog. An account of the remarkable effects of a powder compoſed of the dried leaves and pepper, in theſe caſes, was communicated to the Royal Society by Mr Dampier, and publiſhed in the Philoſophical Tranſactions. This powder was afterwards inſerted (in the year 1721) into the London pharmacopœia, under the title of *pulvis antilyſſus*, at the deſire of an eminent phyſician, who had great experience of its good effects. Some years after, the ſame gentleman publiſhed

bliſhed and diſperſed a paper containing the method of cure, which he had in a great number of inſtances conſtantly found ſucceſsful. In this paper the directions were to the following effect: "Let the patient "be bled to the extent of nine or "ten ounces: and afterwards take "a dram and a half of the powder "every morning faſting, for four "mornings ſucceſſively, in half a "pint of cow's milk, warm. After "theſe four doſes are taken, the "patient muſt go into the cold "bath, or a cold ſpring or river, "every morning faſting for a month, "he muſt be dipt all over, but not "ſtay in (with his head above wa-"ter) longer than half a minute, if "the water be very cold; after this "he muſt go in three times a-week "for a fortnight longer." In the year 1745, the world was favoured with a new edition of the Mechanical Account of Poiſons, in which we find the ſame method of cure again recommended, as having, in a courſe of thirty years experience, never failed of ſucceſs; where it had been followed before the hydrophobia begun. It is greatly to be wiſhed, that the efficacy of this medicine in preventing theſe terrible diſorders, was proved by inconteſtible facts. Inſtances have been produced of its proving unſucceſsful; and the many examples of the fatality of the diſeaſe which continually occur, ſeem arguments either of the ineffi-cacy of the medicine, or a ſtrange negligence in applying it. We ſhall only further obſerve, that Boerhaave, who is in general ſufficiently liberal in the commendation of remedies, ranks this among thoſe inſignificant triffles, which whoever depends upon, will find himſelf deceived; and indeed this opinion is now ſo general, that this ſpecies of the lichen has no place in the preſent editions of our pharmacopœias, and is now rejected from moſt of the foreign ones.

LICHEN ISLANDICUS

[*Ed.*] *Herba.*

Lichen iſlandicus Lin.

Eryngo-leaved, or eatable liverwort.

The leaves of this ſpecies of lichen are nearly erect, ſtiff when dry, and pliant when moiſt; irregularly divided into broad diſtant ſegments, ſmooth and ciliated at the margins. It is a native of this country. An ounce of it boiled in a pound of water, and ſtrained, yields about ſeven ounces of as thick a mucilage as one part of gum Arabic diſſolved in three parts of water. The Icelanders uſe it in diet. It is ſteeped in water to deprive it of its bitterneſs and cathartic quality, and the powder of it is made into pottage with milk or water. This diet is recommended in phthiſis and ſcorbutus; and is ſaid to be very nouriſhing, antiſceptic, and gently laxative. The Edinburgh pharmacopœia, however, is the only one into which this ſpecies of lichen ſeems yet to be introduced: and we believe that few practioners in Britain have much experience of it. If it have any effect, it is probably only as a mild article of diet.

LIGNUM CAMPECHENSE

[*Lond. Ed.*]

Hæmatoxylum campechianum Lin.

Logwood or Campeachy wood.

This wood is brought chiefly from Campeachy in the bay of Honduras. It is uſually in large logs, very compact and hard, of a red colour, and an aſtringent ſweet taſte. It has been for a long time uſed by the dyers, but not till very lately as a medicine; a decoction of it, and the extract, are in uſe in our hoſpitals, and are ſaid to have proved very ſerviceable in diarrhœa. It frequently

ly tinges the ſtools, and ſometimes the urine. The extract is now received into the ſhops; and it is found to be a very uſeful aſtringent.

LIGNUM RHODIUM [*Roſs.*]

Geniſta canarienſis Lin.

Roſewood.

This wood or root is chiefly brought to us from the Canary iſlands. The writers on botany and the materia medica are much divided about the lignum rhodium, not only with regard to the plant which affords it, but likewiſe in their accounts of the drug itſelf, and have deſcribed, under this name, ſimples manifeſtly different. This confuſion ſeems to have ariſen from an opinion that the rhodium and aſpalathus (an article of conſiderable eſteem among the antients, but with regard to which the moderns are very much at a loſs) are the ſame; whence different woods brought into Europe for the unknown aſpalathus were ſold again by the name of rhodium.

In thoſe modern pharmacopœias which admit the lignum rhodium, different Linæan names are at preſent given to it: Thus the authors of the Diſpenſatorium Brunſvicence ſuppoſe it to be the rhodiola roſa of Linné and they may perhaps be as near the truth as the authors of the Pharmacopœia Roſſica.

As to aſpalathus, the antients themſelves diſagree; Dioſcorides meaning by this appellation the wood of a certain ſhrub freed from the bark, and Galen the bark of a root. At preſent we have nothing under this name in the ſhops. What was heretofore ſold among us as aſpalathus, were pieces of a pale coloured wood brought from the Eaſt Indies, and more commonly called *calambour*.

The aſpalathus, calambour, and lignum aquilæ, are ſuppoſed to be woods of the nature of agallochum, or lignum aloes, but weaker in quality.

The lignum rhodium of the ſhops is uſually in long crooked pieces, full of knots, which when cut appear of a yellow colour like box, with a reddiſh caſt: the largeſt, ſmootheſt, moſt compact, and deepeſt coloured pieces, ſhould be choſen; and the ſmall, thin, or pale ones rejected. The taſte of this wood is lightly bitteriſh, and ſomewhat pungent; its ſmell very fragrant, reſembling that of roſes: long kept, it ſeems to loſe its ſmell; but on cutting, or rubbing one piece againſt the other, it ſmells as well as at firſt. Diſtilled with water, it yields an odoriferous eſſential oil, in very ſmall quantity. Rhodium is at preſent in eſteem only upon account of its oil, which is employed as an high and agreeable perfume in ſcenting pomatums and the like. But if we may reaſon from analogy, this odoriferous ſimple might be advantageouſly applied to more uſeful purpoſes; a tincture of it in rectified ſpirit of wine, which contains in a ſmall volume the virtue of a conſiderable quantity of the wood, bids fair to prove a ſerviceable cordial, not inferior perhaps to any thing of this kind.

LIGUSTICUM, vide LEVISTICUM.

LILIUM ALBUM [*Ed.*]

Radix.

Lilium candidum Lin

White lily; the root.

This is cultivated in gardens, more for the beauty of its flowers than medicinal uſe. The mucilaginous root is uſed by ſome in form of poultice; but it poſſeſſes no advantage over the poultices formed of vegetable farinæ.

LI-

LILIUM CONVALLIUM [*Suec.*] *Flores.*

Convallaria maialis Lin.

Lily of the valley, or May lily; the flowers.

This plant grows wild in great abundance in woods and shady places, flowering in May. The flowers are said to be cephalic and nervine. They have a pleasant sweet smell, which they impart by infusion to expressed oils, and give over in distillation both to water and spirit; but no essential oil has been hitherto obtained from them. Etmuller says, that the distilled spirit is more fragrant than the water. The roots of the wild lily are very bitter: when dried they are said to prove a gentle errhine; as are also the flowers.

LIMON [*Lond. Ed.*] *Succus, cortex exterior, et oleum vulgo essentia dictum.*

Citrus medica Lin.

Lemon; the juice, outer rind, and its oil or essence.

The juice of lemons is similar in quality to that of oranges, from which it differs little otherwise than in being more acid. The yellow peel is an elegant aromatic, and is frequently employed in stomachic tinctures and infusions: it is considerably less hot than orange peel, and yields in distillation with water a less quantity of essential oil: its flavour is nevertheless more perishable, yet it does not arise so readily with spirit of wine; for a spirituous extract made from lemon peel possesses the aromatic taste and smell of the subject in much greater perfection than an extract prepared in the same manner from the peels of oranges. In the shops, a syrup is prepared from the juice, and the peel is candied; the peel is an ingredient in the bitter infusions and wines; the essential oil enters the volatile aromatic spirit, or spiritus ammoniæ compositus, as it is now called, and some other formulæ.

LINARIA [*Suec.*] *Folia.*

Antirrhinum linaria Lin.

Toad-flax; the leaves.

This grows wild on banks and about the sides of fields. It is said by some to be a powerful diuretic, whence it is named by Tragus *herba urinalis*; by others, to be a strong cathartic, insomuch that Brunfelsius has called it by a German name expressing this quality, *scheisskraut*. Experience scarcely warrants either of these appellations; nor does common practice take any notice of the plant.

LINGUA CERVINA [*Brun.*]

Asplenium scolopendrium Lin.

Harts-tongue; the leaves.

This plant consists of a number of long narrow leaves, without any stalk: it grows upon rocks and old walls, and remains green all the year. The leaves have a roughish, somewhat mucilaginous taste, like that of the maidenhair, but more disagreeable. They are recommended in obstructions of the viscera, and for strengthening their tone; and have sometimes been made use of for these intentions, either alone, or in conjunction with maidenhair, or the other plants called *capillary*.

LINUM CATHARTICUM [*Rofs.*] *Herba.*

Linum catharticum Lin.

Purging flax; the leaves.

This is a very small plant, not above four or five inches high, found wild upon chalky hills and in dry pasture-grounds. Its virtue is expressed in its title: an infusion in water or whey of a handful of the fresh leaves, or a dram of them in substance when dried, are said to purge without inconvenience.

LI-

LINUM SATIVUM [*Lond. Ed.*] *Semen.*

Linum uſitatiſſimum Lin.

Lintſeed.

Lintſeed yields, by preſſing, a conſiderable quantity of oil; and boiled in water, a ſtrong mucilage: theſe are occaſionally made uſe of for the ſame purpoſes as other ſubſtances of that claſs; and ſometimes the ſeeds themſelves in emolient and maturating cataplaſms. They have alſo been employed in Aſia, and, in times of ſcarcity, in Europe, as food; but are not agreeable, or in general wholeſome. Tragus relates, that thoſe who fed on theſe in Zealand, had the hypochondria much diſtended, and the face and other parts ſwelled, in a very ſhort time; and that not a few died of theſe complaints. The expreſſed oil is an officinal preparation.

LIQUIDAMBRA [*Brun.*] *Reſina.*

Liquidambra ſtyraciflua Lin.

Liquidamber.

This is a reſinous juice which flows from a large tree growing in Virginia, Mexico, and other provinces of America. This juice is at firſt about the conſiſtence of turpentine, but by long keeping hardens into a reſin: it is of a yellow colour, inclining to red, a warm taſte, and a fragrant ſmell, not unlike that of ſtorax heightened with a little ambergris. It was formerly of great uſe as a perfume, but is at preſent a ſtranger in the ſhops.

LITHARGYRUS [*Ed.*]

Litharge.

This is a preparation of lead, uſually in form of ſoft flakes, of a yellowiſh reddiſh colour. If calcined lead be urged with a haſty fire, it melts into the appearance of oil, and on cooling concretes into litharge. Greateſt part of the litharge met with in the ſhops, is produced in the purification of ſilver from lead, and the refining of gold and ſilver by means of this metal: according to the degree of fire and other circumſtances, it proves of a pale or deep colour; the firſt has been commonly called litharge of ſilver, the other litharge of gold.

LITHOSPERMUM [*Brun.*] *Semen.*

Lithoſpermum officinale Lin.

Gromwell; the ſeed

This is found wild in dry fields and hedges. Its ſeeds are roundiſh, hard, of a whitiſh colour, like little pearls; and from theſe circumſtances have been ſuppoſed peculiarly ſerviceable in calculous diſorders. Their taſte is merely farinaceous.

LOBELIA [*Ed.*] *Radix.*

Lobelia ſyphilitica Lin.

Lobelia; the root.

This plant grows in moiſt places in Virginia, and bears our winters. It is perennial, has an erect ſtalk three or four feet high, blue flowers, a milky juice, and a rank ſmell. The root conſiſts of white fibres about two inches long, reſembles tobacco in taſte, which remains on the tongue and is apt to excite vomiting. It is uſed by the North American Indians as a ſpecific in the venereal diſeaſe. The form is that of decoction; the doſe of which is ordered to be gradually increaſed till it bring on very conſiderable purging, then to be intermitted for a little, and again uſed in a more moderate degree till the cure be completed. The ulcers are alſo waſhed with the decoction, and the Indians are ſaid to ſprinkle them with the powder of the inner bark of the ſpruce tree. The ſame ſtrictneſs of regimen is ordered as during a ſalivation or mercurial courſe. The benefit to be derived from this article

article has not, as far as we know, been confirmed either in Britain or by the practitioners in Virginia: for there, as well as in this country, recourse is almost universally had to the use of mercury; and it is probably from this reason that the London college have not received it into their list. It seems, however, to be an article which, in some cases, deserves a trial.

LUJULA [*Lond.*] *Folium.*
Oxalis acetosella Lin.
Wood sorrel; the leaves.

This is a small plant, growing wild in woods. In taste and medical qualities, it is similar to the common sorrel, but considerably more grateful, and hence is preferred by the London college. Boiled with milk, it forms an agreeable whey; and beaten with sugar, a very elegant conserve, which has been for some time kept in the shops, and not unfrequently employed.

LUPINUS [*Brun.*] *Semen.*
Lupinus albus Lin.
White lupines; the seeds.

These have a leguminous taste, accompanied with a disagreeable bitter one. They are said to be anthelmintic, both taken internally or applied externally. Caspar Hoffman cautions against their external use, and tells us (from one of the Arabian writers) that they have sometimes occasioned death. Simon Pauli also says, that he saw a boy of eight or ten years of age, after taking a dram of these seeds in powder, seized with exquisite pains of the abdomen, a difficulty of respiration, and almost total loss of voice; and that he was relieved from these complaints by a glyster of milk and sugar, which brought away a vast quantity of worms. But Mr Geoffroy observes, very justly, that either these symptoms were owing to the worms, and not to the medicine; or that these seeds, if they have any noxious quality, lose it, with their bitterness, in boiling; since they were commonly used among the Greeks as food, and recommended by Galen as very wholesome.

LUPULUS [*Suec.*] *Strobuli.*
Humulus lupulus Lin.
Hops; the leafy heads.

These are one of the most agreeable of the strong bitters, though rarely employed for any medicinal purposes. Their principal consumption is in malt liquors, which they render less glutinous, and dispose to pass off more freely by urine.

The odour of hops hung in a bed has been said to induce sleep after opium had failed.

Hops contain a very considerable proportion of essential oil; and in the manner in which they are commonly used in brewing, this has been hitherto almost entirely lost: but a late proposal has been made for preserving it as it arises, and restoring it to the brewed liquor; a discovery well meriting the public attention.

LYCOPERDON [*Brun.*]
Lycoperdon bovista Lin.
Puff ball, or dusty mushroom.

This fungus is found in dry pasture grounds. It seems to be nearly of the same quality with the agaric of the oak; and has, like it, been employed for restraining external hæmorrhagies and other fluxions. The fine dust, with which it becomes filled by age, has been applied also with the same intentions.

MACIS [*Suec.*] *Involucrum nucis moschatæ.*
Myristica moschata Lin.
Mace.

Mace

Mace is one of the coverings of the nutmeg. This ſpice, conſidered as the ſubject both of medicine and of pharmacy, agrees nearly with the nutmeg. The principal difference is, that mace is ſomewhat leſs aſtringent, yields to the preſs a more fluid oil, and in diſtillation a more volatile one: what is called in the ſhops expreſſed oil of mace, is not prepared from this ſpice, but from the nutmeg. Mace was formerly an ingredient in the officinal ſteel-wine; and the expreſſed oil is ſtill an ingredient in the ſtomachic and cephalic plaſters, which are now more properly ſtyled the *Emplaſtrum Ladani*, and *Emplaſtrum picis Burgundicæ*.

MAJORANA [*Lond. Ed.*] *Herba.*

Origanum majorana Lin.

Sweet marjoram; the leaves.

Marjoram is raiſed annually in our gardens for culinary as well as medicinal uſes; the ſeeds are commonly procured from the ſouthern parts of France, where the plant grows wild. It is a moderately warm aromatic, yielding its virtues both to aqueous and ſpirituous liquors by infuſion, and to water in diſtillation. It is principally celebrated in diſorders of the head and nerves, and in the humoural aſthmas and catarrhs of old people. An eſſential oil of the herb is kept in the ſhops. The powder of the leaves proves an agreeable errhine, and enters the officinal ſternutatory powder.

MALABATHRUM [*Brun.*] *Folium.*

Indian leaf.

This leaf is of a green colour, firm texture, very ſmooth on one ſide, leſs ſo on the other, on which run three remarkable ribs through its whole length. It is conjectured to be the leaf of a tree which is a variety of the laurus cinnamomum of Linné. Lemery and Pomet affirm, that theſe leaves have no perceptible ſmell or taſte; Herman and others, that they have a very great ſhare of both: thoſe met with in our ſhops have little or no ſmell till they are well rubbed, when they emit an agreeable ſpicy odour: on chewing, they are found extremely mucilaginous. This drug was formerly uſed in medicine as an ingredient in the mithridate and theriaca: It is, even when in its greateſt perfection, much inferior to the mace, which has been directed as a ſuccedaneum to it.

MALVA [*Lond. Ed.*] *Folium, flos.*

Malva ſylveſtris Lin.

Mallow; the leaf and flower.

Theſe have a ſomewhat mucilaginous ſweetiſh taſte. The leaves are ranked the firſt of the four emollient herbs: they were formerly of ſome eſteem, in food, for looſening the belly; at preſent, decoctions of them are ſometimes employed in dyſenteries, heat, and ſharpneſs of urine, and in general for obtunding acrimonious humours: their principal uſe is in emolient glyſters, cataplaſms, and fomentations. The leaves enter the officinal decoction for glyſters, and a conſerve was formerly prepared from the flowers.

MANDRAGORA [*Suec.*] *Radix.*

Atropa mandragora Lin.

Mandrake; the root.

The qualities of this plant are very doubtful: it has a ſtrong diſagreeable ſmell reſembling that of the narcotic herbs, to which claſs it is uſually referred; and it belongs indeed to the ſame genus as the deadly nightſhade. It has rarely been any otherwiſe made uſe of in medicine, than as an ingredient in one of the old officinal ointments. Both that

compoſition and the plant itſelf are now rejected from our pharmacopœias; but it ſtill retains a place in moſt of the foreign ones, and may perhaps be conſidered as deſerving farther attention.

MANNA [*Lond. Ed.*] *Succus concretus.*

Fraxinus ornus Lin.

Manna.

Manna is the juice of certain trees of the aſh kind, growing in Italy and Sicily. When naturally concreted on the plants and ſcraped off, it is called manna in the tear; but if allowed to exude on ſtraws or chips of wood faſtened to the tree, it is called canulated or flaky manna. The common, or fat manna, is got by inciſions made after the ſpontaneous exudation is over, and is in larger maſſes and of a redder colour. The beſt Calabrian manna is in oblong, light, friable pieces or flakes, of a whitiſh or pale yellow colour, and ſomewhat tranſparent. The inferior kinds are moiſt, unctuous, and dark coloured. Manna is ſaid to be ſometimes counterfeited by a compoſition of ſugar and honey, mixed with a little ſcammony: there is alſo a factitious manna, which is white and dry, ſaid to be compoſed of ſugar, manna, and ſome purgative ingredient, boiled to a proper conſiſtence; this may be diſtinguiſhed by its weight, ſolidity, untranſparent whiteneſs, and by its taſte, which is different from that of manna.

Manna is a mild, agreeable laxative, and may be given with ſafety to children and pregnant women: nevertheleſs in ſome particular conſtitutions, it acts very unkindly, producing flatulencies and diſtention of the viſcera; theſe inconveniences may be prevented by the addition of any grateful warm aromatic. Manna operates ſo weakly as not to produce the full effect of a cathartic, unleſs taken in large doſes; and hence it is rarely given with this intention by itſelf. It may be commodiouſly diſſolved in the purging mineral waters, or joined to the cathartic ſalts, ſenna, rhubarb, or the like. Geoffroy recommends acuating it with a few grains of emetic tartar: the mixture is to be divided into ſeveral doſes, each containing one grain of the emetic tartar: by this management, he ſays, bilious ſerum will be plentifully evacuated, without any nauſea, gripes, or other inconvenience: It is remarkable, that the efficacy of this drug is greatly promoted (if the account of Valliſnieri is to be relied on) by a ſubſtance which is itſelf very ſlow of operation, caſſia. And for this reaſon manna is an ingredient in the electuary of caſſia.

MARRUBIUM [*Lond Ed.*] *Herba.*

Marrubium vulgare Lin.

White horehound; the leaves.

Theſe have a very ſtrong, not diſagreeable ſmell, and a roughiſh very bitter taſte. Beſides the virtues which they poſſeſs in common with other ſtrong bitters, they are ſuppoſed to be peculiarly ſervicable in humoural aſthmas and coughs, the yellow jaundice proceeding from a viſcidity of the bile, and other chronical diſorders. They are doubtleſs an uſeful aperient and deobſtruent, they promote the fluid ſecretions in general, and, when liberally taken, looſen the belly.

MARUM SYRIACUM [*Lond.*] *Herba.*

Teucrium marum Lin.

Syrian herb maſtic.

This is a ſmall ſhrubby plant, growing ſpontaneouſly in Syria, Candy, and other warm climates, and cultivated with us in gardens. The leaves have an aromatic bitteriſh taſte; and when rubbed between the fingers, a quick pungent ſmell, which

which soon affects the head, and occasions sneezing: distilled with water, they yield a very acrid, penetrating essential oil, resembling one obtained by the same means from scurvy-grass. These qualities sufficiently point out the uses to which this plant might be applied; at present it is little otherwise employed than in cephalic snuffs. It is an ingredient in the *pulvis sternutatorius* of the London pharmacopœia, or *pulvis asari compositus*.

MARS SACCHARATUS [*Ed.*]

Steel comfits.

This article is chiefly made by the confectioner; and, though little used, has got a place, as being occasionally convenient on account of its sweet taste; and it is sometimes used with advantage where chalybeates are indicated.

A solution of two parts of fine sugar in water boiled to a candy consistence, is gradually added to one part of purified iron filings, in a vessel hung over a very gentle fire, and constantly shaken, that the filings may be crusted over with the sugar. Starch is previously added, in the proportion of a dram to a pound, to prevent the comfit from running into lumps.

MASTICHE [*Lon. Ed.*] *Resina.*

Pistacia lentiscus Lin.

Gum mastich.

Mastich is a resinous substance brought from Chio, in small, yellowish, transparent grains or tears, of an agreeable smell, especially when heated or set on fire. This resin is recommended in old coughs, dysenteries, hæmoptoes, weakness of the stomach, and in general in all debilities and laxity of the fibres. Geoffroy directs an aqueous decoction of it to be used for these purposes: but water extracts little or nothing from this resin; rectified spirit almost entirely dissolves it: the solution tastes very warm and pungent; it is not however the basis of any fixed formula in our pharmacopœias, and is at present but little employed.

MATRICARIA [*Suec.*] *Herba.*

Matricaria parthenium Lin.

Common wild featherfew; the leaves.

This plant was at one time much celebrated as an antihysteric medicine; but it is now so little employed in Britain, that it has no place in our pharmacopœias.

Simon Pauli relates, that he has experienced most happy effects from it in obstructions of the uterine evacuations; I have often seen, says he, from the use of a decoction of matricaria and chamomile flowers with a little mugwort, hysteric complaints instantly relieved, the discharge succeed plentifully, and the patient, from a lethargic state, return as it were into life again. Matricaria is likewise recommended in sundry other disorders, as a warm stimulating bitter; all that bitters and carminatives can do, says Geoffroy, may be expected from this. It is undoubtedly a medicine of some use in these cases, though not perhaps equal to chamomile flowers alone, with which the matricaria agrees in sensible qualities, excepting in being weaker.

MECHOACANNA [*Brun.*] *Radix.*

Convolvulus mechoacanna Lin.

Mechoacan: the root.

This is the root of an American convolvulus brought from Mechoacan, a province of Mexico, in thin slices like jalap, but larger, and of a whitish colour. It was first introduced into Europe about the year 1524, as a purgative universally safe, and capable of evacuating all morbi

bific humours from the moſt remote parts of the body: but as ſoon as jalap became known, Mechoacan gradually loſt its reputation, which it has never ſince been able to retrieve. It is nevertheleſs by ſome ſtill deemed an uſeful cathartic; it has very little ſmell or taſte, and is not apt to offend the ſtomach; its operation is ſlow, but effectual and ſafe. Geoffroy affirms, that there is ſcarce any purgative accompanied with fewer inconveniences. It ſeems to differ from jalap only in being weaker; the reſins obtained from both have nearly the ſame qualities, but jalap yields five or ſix times as much as Mechoacan; hence it is found neceſſary to exhibit the latter in ſix times the doſe of the former, to produce the ſame effects.

MEL [*Lond.*]
Honey.

Honey is a vegetable juice, obtained from the honey comb, either by ſeparating the combs, and laying them flat upon a ſieve, through which the honey ſpontaneouſly percolates; or by including the comb in canvas bags, and forcing the honey out by a preſs: the firſt ſort is the pureſt; the latter is found to contain a good deal of the matter of which the comb is formed, and ſundry other impurities: there is another ſort ſtill inferior to the two foregoing, obtained by heating the combs before they are put into the preſs. The beſt ſort is thick, of a whitiſh colour, an agreeable ſmell, and a very pleaſant taſte: both the colour and flavour differ according to the plants from which the bees collect it: that of Narbonne in France, where roſemary abounds, is ſaid to have a very manifeſt flavour of that plant, and to be imitable by adding to other honey an infuſion of roſemary flowers. Honey, conſidered as a medicine, is a very uſeful detergent and aperient, powerfully promoting the expectoration of tough phlegm: in ſome particular conſtitutions it has an inconvenience of griping or proving purgative; this is ſaid to be in ſome meaſure prevented, by previouſly boiling the honey: This, however, with all conſtitutions, is by no means effectual; and the circumſtance mentioned has had ſo much weight with the Edinburgh college, that they do not now employ it in any preparation, and have entirely rejected the mella medicata, ſubſtituting ſyrups in their place; but there can be no doubt that honey is very uſeful in giving form to different articles, though there be ſome individuals with whom it may diſagree. In order, however, to obtain the good effects of the honey itſelf, it muſt be uſed to a conſiderable extent, and as an article of diet.

MELAMPODIUM [*Ed.*]
Vide HELLEBORUS NIGER.

MELILOTUS [*Suec.*] *Flores, herba.*

Trifolium melilotus officinalis Lin.
Melilot; the leaves and flowers.

This plant grows wild in hedges and among corn; and has likewiſe, been cultivated for medicinal uſes, in gardens. The green herb has no remarkable ſmell; when dry, a pretty ſtrong one; the taſte is roughiſh, bitter, and if long chewed, naſeous. A decoction of this herb has been recommended in inflammations of the abdomen; and a decoction of the flowers in the fluor albus. But modern practice rarely employs it any otherwiſe than in emolient and carminative glyſters, and in fomentations, cataplaſms, and the like; and even in theſe not often. It formerly gave name to one of the officinal plaſters, which received from the melilot a green colour, but no particular virtue.

ME-

MELISSA [*Lond. Ed.*] *Folia.*
Melissa officinalis Lin.
Balm; the herb.

This plant, when in perfection, has a pleasant smell, somewhat of the lemon kind; and a weak, roughish aromatic taste. The young shoots have the strongest flavour: the flowers, and the herb itself, when old, or produced in very moist rich soils or rainy seasons, are much weaker both in smell and taste. Balm is appropriated by the writers on the Materia Medica, to the head, stomach, and uterus; and in all disorders of these parts is supposed to do extraordinary service. So high an opinion have some of the chemists entertained of balm, that they have expected to find in it a medicine which should prolong life beyond the usual period. The present practice however holds it in no great esteem, and ranks it, where it certainly deserves to be, among the weaker corroborants: in distillation it yields an elegant essential oil, but in small quantity; the remaining decoction tastes roughish. Strong infusions of the herb, drank as tea, and continued for some time, have done service in a weak lax state of the viscera: these liquors, lightly acidulated with juice of lemons, turn of a fine reddish colour, and prove an useful, and to many a very grateful drink, in dry parching fevers.

MELO [*Gen.*] *Semina.*
Cucumis melo Lin.
Melon; the seeds.

These stand among the four greater cold seeds. They have been sometimes used, with the others of that class, as cooling and emollient; but are at present little taken notice of.

MENTHA PIPERITIS [*Lond. Ed.*] *Herba.*
Mentha piperita Lin.
Peppermint; the leaves.

This species of mint grows wild in some parts of England in moist watery places, but is much less common than the other sorts. The leaves have a more penetrating smell than any of the other mints, and a much warmer, pungent, glowing taste like pepper, sinking as it were into the tongue. The principal use of this herb is in flatulent colics, languors, and other similar disorders: it seems to act as soon as taken, and to extend its effects through the whole system, instantly communicating a glowing warmth. Water extracts the whole of the pungency of this herb by infusion, and elevates it in distillation. Its officinal preparations are an essential oil, a simple water, and a spirit.

MENTHA SATIVA [*Lond. Ed.*] *Herba.*
Mentha spicata. Hudf. Lond.
Mentha viridis Lin. Ed.
Garden or spear mint; the leaves.

The leaves of this mint have a warm, roughish, somewhat bitterish taste; and a strong, not unpleasant, aromatic smell. Their virtues are those of a warm stomachic and carminative: in loss of appetite, nausea, continual retchings to vomit, and, as Boerhaave expresses it, almost paralytic weakness of the stomach, few simples are perhaps of equal efficacy. In colic pains, the gripes to which children are subject, lienteries, and other kinds of immoderate fluxes, this plant frequently does good service. It likewise proves beneficial in hysteric cases, and affords an useful cordial in languors and other weaknesses following delivery.

The best preparations for these purposes are, a strong infusion made from the dry leaves in water (which is much superior to one from the green herb), or rather a tincture or extract prepared with rectified spirit,

rit. These possess the whole virtues of the mint: the essential oil and distilled water contain only the aromatic part; the expressed juice only the astringency and bitterishness, together with the mucilaginous substance common to all vegetables. The essential oil, a simple water, a spirit, and a conserve, are kept in the shops.

MENYANTHES, vide TRIFOLIUM.

MERCURIALIS [*Gen.*] *Herba.*

Mercurialis annua Lin.

Herb mercury; the leaves.

These stand among the five emollient herbs; and with this intention are sometimes made use of in glysters. A syrup made from the leaves, given in the dose of two ounces, is said to prove a mild and useful laxative.

There is another sort of mercurialis growing in woods and hedges, which, though recommended by some botanic writers as having the same virtues with the foregoing, and as being more palatable, has been found possessed of noxious qualities. This may be distinguished from the foregoing, by its being a perennial plant, *Mercurialis perennis Lin.* by being larger, having its leaves rough, and the stalk not at all branched, it is commonly called dog's mercury.

MERCURIUS, vide HYDRARGYRUS.

MESPILA. *Fructus mespili vulgaris J. B.*

Mespilus Germanica Lin.

The medlar tree; its fruit.

Medlars are scarcely ever made use of for any medicinal purposes. They have a very austere astringent taste, insomuch as not to be eatable until mellowed by keeping.

MEUM [*Brun.*] *Radix.*

Æthusa meum Lin.

Spignel; the root.

Spignel is an umbelliferous plant, found wild in Italy and the warmer parts of Europe, and sometimes also in England. The roots have a pleasant aromatic smell, and a warm pungent bitterish taste: in virtue they are similar to the levisticum, from which this root seems to differ only in being weaker and somewhat more agreeable. It is an useful aromatic and carminative, though at present so little regarded as to have no place in our pharmacopœias.

MEZEREUM [*Lond. Ed.*] *Cortex radicis.*

Daphne mezereum Lin.

Mezereon, or spurge olive; the bark of the root.

Mezereon, although an article of great activity has only of late had a place in our pharmacopœias. It is a native of different parts of Europe; it has elegant pale purplish or white flowers, sometimes appearing about the end of January. The root was long used in the Lisbon diet-drinks for venereal complaints, particularly nodes and other symptons resisting the use of mercury; but with the composition of this article we were unacquainted, till an account of it was published in the Edinburgh Physical Essays, by Dr Donald Monro of London.

On chewing it a little, it proves very pungent, and its acrimony is accumulated about the fauces, and is very durable. It is employed chiefly under the form of decoction; and it enters the decoctum sarsaparillæ compositum of the London college; but it has also been used in powder combined with some inactive one, as that of liquorice root. It is apt to occasion vomiting and purging; so must be begun in grain-doses and gradually increased. It is often usefully combined with mercury.

The

The bark of the root contains moſt acrimony, though ſome prefer the woody part. Mezereon has alſo been uſed with good effects in tumours and cutaneous eruptions not venereal.

MILLEFOLIUM [*Ed.*] *Folia, flores.*
Achillea millefolium Lin.
Milfoil; the leaves and flowers.

This grows plentifully about the ſides of fields, and on dry commons, flowering greateſt part of the ſummer. The leaves have a rough bitteriſh taſte, and a faint aromatic ſmell. Their virtues are thoſe of a very mild aſtringent; and as ſuch they ſtand recommended in hæmorrhagies both internal and external, in diarrhœas, debility, and laxity of the fibres, and likewiſe in ſpaſmodic and hyſterical affections. In theſe caſes, ſome of the Germans have a very high opinion of this herb, particularly Stahl, who eſteemed it a very effectual aſtringent, and one of the moſt certain tonics and ſedatives. Its virtues are extracted in great perfection by proof ſpirit; water takes up its aſtringency and bitterneſs, but little of its aromatic flavour; tinctures made in rectified ſpirit contain both, though they be rather weaker than thoſe in proof ſpirit.

The flowers of milfoil are conſiderably ſtronger in aromatic flavour than the leaves; in diſtillation, they yield a ſmall quantity of eſſential oil, of an elegant blue colour.

The roots, taken up in the ſpring, have an agreeable, warm, pungent taſte. Dr Grew reſembles them to contrayerva, and imagines they might in ſome degree ſupply its place: this, however, is much to be doubted, ſince there is ſuch a remarkable difference between the two, that whilſt one retains its taſte for a length of time after it has been brought to us from America, the taſte of the other is almoſt loſt by drying.

MILLEPEDA [*Lond. Ed.*]
Oniſcus aſſellus Lin.
Slaters.

Theſe inſects are found in cellars, under ſtones, and in cold moiſt places: in the warmer countries they are rarely met with. Millepedes have a faint diſagreeable ſmell, and a ſomewhat pungent, ſweetiſh, nauſeous taſte. They have been highly celebrated in ſuppreſſions of urine, in all kinds of obſtructions of the bowels, in the jaundice, weakneſs of ſight, and a variety of other diſorders. Whether they have any juſt title to theſe virtues, is greatly to be doubted: thus much is certain, that their real effects come far ſhort of the character uſually given of them. Their officinal preparations are, the millepedes dried and powdered, and a vinous infuſion, which is by ſome held in high eſteem in caſes of hooping cough.

MINIUM [*Lond.*] Red lead; lead calcined to redneſs. See the article PLUMBUM.

MORSUS DIABOLI [*Brun.*] *Radix, folia.*
Scabioſa ſucciſſa Lin.
Devil's bit; the leaves and roots.

Theſe ſtand recommended as alexipharmacs, but they have long given place to medicines of greater efficacy.

MORUM [*Lond.*] *Fructus.*
Morus nigra Lin.
Mulberry; the fruit.

This tree is commonly cultivated on account of its fruit, which is rather eaten for pleaſure than uſed as a medicine; it has the common qualities of the other ſweet fruits, abating heat, quenching thirſt, and promoting the groſſer ſecretions; an agreeable ſyrup made from the juice

is kept in the ſhops. The bark of the roots has been in conſiderable eſteem as a vermifuge; its taſte is bitter, and ſomewhat aſtringent.

MOSCHUS [*Lond. Ed.*]

Moſchus moſchiferus Lin.

Muſk.

Muſk is a grumous ſubſtance like clotted blood, found in a little bag, ſituated near the umbilical region of a particular kind of animal met with in China, Tartary, and the Eaſt Indies: the beſt muſk is brought from Tonquin, an inferior ſort from Agria and Bengal, and a ſtill worſe from Ruſſia.

Fine muſk comes to us in round thin bladders; which are generally about the ſize of a pigeon's egg, covered with ſhort brown hairs, well filled, and without any appearance of having been opened. The muſk itſelf is dry, with a kind of unctuoſity, of a dark reddiſh brown, or ruſty blackiſh colour, in ſmall round grains, with very few hard black clots, and perfectly free from any ſandy or other viſible foreign matter. If chewed, and rubbed with a knife on paper, it looks ſmooth, bright, yelloviſh, and free from grittineſs. Laid on a red-hot iron, it catches flame, and burns almoſt entirely away, leaving only an exceeding ſmall quantity of light greyiſh aſhes; if any earthy ſubſtances have been mixed with the muſk, the quantity of the reſiduum will readily diſcover them.

Muſk has a bitter ſubacrid taſte; a fragrant ſmell, agreeable at a diſtance, but diſagreeable when too near, unleſs weakened by the admixture of other ſubſtances. If a ſmall quantity be infuſed in ſpirit of wine in the cold for a few days, it imparts a deep, but not red tincture: this, though it diſcovers no great ſmell of the muſk, is nevertheleſs ſtrongly impregnated with its virtues; a ſingle drop of it communicates to a whole quart of wine a rich muſky flavour. The degree of that flavour a tincture drawn from a known quantity of muſk, communicates to vinous liquors, is perhaps one of the beſt criteria for judging of the goodneſs of this commodity. Neumann informs us, that ſpirit of wine diſſolves ten parts out of thirty of muſk, and that water takes up twelve; that water elevates its ſmell in diſtillation, whilſt pure ſpirit brings over nothing.

Muſk is a medicine of great eſteem in the eaſtern countries: among us, it has been for ſome time pretty much out of uſe, even as a perfume. It appears, however, from late experience, to be, when properly managed, a remedy of great ſervice even againſt thoſe diſorders which it has been ſuppoſed to produce. Dr Wall has communicated (in the Philoſophical Tranſactions, N° 474), an account of ſome extraordinary effects of muſk in convulſive and other diſeaſes, which have too often baffled the force of medicine. He obſerves, that the ſmell of perfumes is often of diſſervice, where the ſubſtance taken inwardly, and in conſiderable quantity, produces the happieſt effects: that two perſons, labouring under a ſubſultus tendinum, extreme anxiety, and want of ſleep, from the bite of a mad dog, by taking two doſes of muſk, each of which were ſixteen grains, were perfectly relieved from their complaints. He likewiſe obſerves, that convulſive hiccups, attended with the worſt ſymptoms, were removed by a doſe or two, of ten grains: and that in ſome caſes, where this medicine could not, on account of ſtrong convulſions, be adminiſtered to the patient by the mouth, it proved of ſervice when injected as a glyſter. He likewiſe adds, that under the quantity of ſix grains, he never found much effect from it; but that, taken

taken to ten grains and upwards, it never fails to produce a mild diaphoresis, without at all heating or giving any uneasiness; that on the contrary, it eases pain, raises the spirits, and that after the sweat breaks out the patient usually falls into a refreshing sleep; that he never met with any hysterical person, how averse soever to perfumes, but could take it in the form of a bolus, without inconvenience. To this paper is annexed an account of some farther extraordinary effects of musk, observed by another gentleman. Repeated experience has since confirmed its efficacy in these disorders. The dose has sometimes been increased, particularly in convulsive disorders, to the quantity of a scruple or half a dram every three or four hours, with two or three spoonfuls of the musk julep between. The julep is the only officinal preparation of it. It is combined with opium in tetanus, and with mercury in rabies canina.

It is not improbable, that we are often disappointed of the good effects which this medicine might produce, from the musk with which the shops are supplied being previously adulterated.

MYROBALANI.

Myrobalans, dried fruits brought from the East Indies; their outward part freed from the stone.

Five kinds of myrobalans were formerly directed as officinals: all of them are supposed to be the produce of the same tree, but its botanical description is not yet ascertained.

All the myrobalans have a gentle purgative virtue. They have also an astringent quality, discoverable by the taste, from their use among the Indians for tanning leather, and from their striking a black colour with chalybeate solutions: in consequence of this, they are supposed to strengthen the bowels after their operation as a cathartic is over. Nevertheless their purgative virtue is so small that practitioners have for a long time laid them entirely aside with that intention; and the college of Edinburgh, as well as that of London, has now rejected them from the catalogue of officinal simples.

MYRRHA [*Lond. Ed.*] *Gummi resina.*

Myrrh; gum resin.

Myrrh is a concrete gummy resinous juice brought from the East-Indies, in globes or drops, of various colours and magnitudes. The best sort is of a brown or reddish yellow colour, somewhat transparent; of a lightly pungent, bitter taste, with an aromatic flavour, though not sufficient to prevent its proving naufeous to the palate; and a strong, not disagreeable smell. The medical effects of this aromatic bitter are to warm and strengthen the viscera: it frequently occasions a mild diaphoresis, and promotes the fluid secretions in general.

Hence it proves servicable in languid cases, diseases arising from a simple inactivity, those female disorders which proceed from a cold mucous, sluggish indisposition of the humours, suppressions of the uterine discharges, cachectic disorders, and where the lungs and thorax are oppressed by viscid phlegm. Myrrh is likewise supposed in a peculiar manner to resist putrefaction in all parts of the body; and in this light stands recommended in malignant, putrid, and pestilential fevers, and in the small-pox; in which last it is said to accelerate the eruption.

The present practice does not seem to expect any peculiar virtue from myrrh; and it is now perhaps less employed than formerly. Some late

writers, however, and particularly Dr Simmons, in his Treatise on Consumptions, have bestowed very high encomiums on it, even in cases of tuberculous phthisis; and although it can by no means be represented as a remedy much to be depended on, yet there is reason to believe that it has been servicable in some cases.

Rectified spirit extracts the fine aromatic flavour and bitterness of this drug, and does not elevate any thing of either in evaporation: the gummy substance left by this menstruum has a disagreeable taste, with scarcely any of the peculiar flavour of the myrrh; this part dissolves in water, except some impurities which remain. In distillation with water, a considerable quantity of a ponderous essential oil arises, resembling in flavour the original drug. Myrrh is the basis of an officinal tincture. It enters the pilulæ ex aloe et myrrha, the pilulæ e gummi, and pilulæ stomachicæ, and some other formulæ. But for obtaining its full effects, it must be given in doses of half a dram or upwards: and it is thought to be advantageously united with a proportion of nitre, cream of tartar, or some other refrigerant salt.

MYRTUS [*Brun.*] *Baccæ.*
Myrtus communis Lin.
Myrtle; the berries.

This is an evergreen shrub, growing in Italy, and cultivated in our botanic gardens. The leaves and berries have been sometimes made use of as astringents, but not at present regarded.

NAPUS [*Brun.*] *Semen.*
Brassica napus Lin.
Sweet navew, or navew gentle; the seeds.

This is a sort of turnip, sown in some of our gardens for culinary use: the roots are warmer than the common turnip. The seeds have a bitterish taste, accompanied with a faint aromatic flavour: abundance of virtues have been ascribed to them, as attenuating, detergent, alexipharmac, and others; at present they are hardly employed in medicine.

NARDUS INDICA [*Brun.*] *Radix.*
Andropogon nardus Lin.
Indian nard, or spikenard.

This root, brought from the East-Indies, is a congeries of small fibres issuing from one head, and matted close together, so as to form a bunch about the size of the finger, with some small strings at the opposite end of the head. The matted fibres (which are the parts chosen for medicinal purposes) are supposed by some to be the head or spike of the plant, by others the root: they seem rather to be the remains of the withered stalks, or the ribs of the leaves: sometimes entire leaves and pieces of stalks are found among them; we likewise now and then meet with a number of these bunches issuing from one root.

Spikenard has a warm, pungent, bitterish taste; and a strong, not very agreeable smell. It is stomachic and carminative; and said to be alexipharmac, diuretic, and emmenagogue; but at present it is very little employed.

NASTURTIUM AQUATICUM [*Lond. Ed.*] *Herba.*
Sisymbrium nasturtium Lin.
Water-cresses; the fresh herb.

This plant grows wild in rivulets, and the clearer standing waters; its leaves remain green all the year, but are in greatest perfection in the spring. They have a quick pungent smell (when rubbed between the fingers), and an acrid taste, similar to that of *cochlearia*, but weaker. As

to

to their virtues, they are among the milder aperient antiscorbutics. Hoffman had an high opinion of this plant, and recommends it as of singular efficacy for accelerating the circulation, strengthening the viscera, opening obstructions of the glands, promoting the fluid secretions, and purifying the blood and humours: for these purposes, the expressed juice which contains the peculiar taste and pungency of the herb, may be taken in doses of an ounce or two, and continued for a considerable time. The juice is an ingredient in the *succus cochleariæ compositus* of the shops.

NEPETA [*Brun.*] *Folia.*
Nepeta cataria Lin.
Catmint; the leaves.

This plant is commonly cultivated in our gardens, and is sometimes also found growing wild in hedges and on dry banks. It is a moderately aromatic plant, of a strong smell, resembling a mixture of mint and penny-royal; of the virtues of which it likewise participates.

NEPHRITICUM LIGNUM [*Brun.*]
Guilandina moringa Lin.
Nephritic wood.

This is an American wood, brought to us in large, compact, ponderous pieces, without knots, of a whitish or pale yellow colour on the outside, and dark coloured, or reddish within; the bark is usually rejected. This wood imparts to water or rectified spirit a deep tincture; appearing, when placed between the eye and the light, of a golden colour; in other situations, blue; pieces of another wood are sometimes mixed with it, which give only a yellow colour to water. The nephritic wood has scarce any smell, and very little taste. It stands recommended in difficulty of urine, nephritic complaints, and all disorders of the kidneys and urinary passages; and is said to have this peculiar advantage, that it does not, like the warmer diuretics, heat or offend the parts. Practitioners, however, have not found these virtues warranted by experience.

NICOTIANA [*Lond.*] *Folium.*
Nicotiana tabacum Lin.
Tobacco; the leaves.

This plant was first brought into Europe about the year 1560, from the island Tobago in America; and is now sometimes cultivated for medicinal use in our gardens; but generally imported from America in large quantities. The leaves are about two feet long, of a pale green colour while fresh, and when carefully dried of a lively yellowish cast. They have a strong, disagreeable smell, like that of the narcotic plants, and a very acrid burning taste. Taken internally, they prove virulently cathartic and emetic, occasioning almost intolerable cardialgic anxieties. By boiling in water, their virulence is abated, and at length destroyed: an extract made by long coction is recommended by Stahl and other German physicians, as a safe and most effectual aperient, expectorant, detergent, &c. but this medicine, which is extremely precarious and uncertain in strength, has never come into any esteem among us. Of late, however, tobacco, under the form of a vinous or watery infusion, and taken in such small doses as to produce little effect from its action on the stomach, has been recommended to the attention of practitioners by Dr Fowler. He has found it to be a very useful and powerful diuretic, and has published many cases of dropsy and dysury, in which its employment has been attended with

the beſt effects. And theſe good effects have been confirmed by the obſervations of other practitioners.

Tobacco is ſometimes uſed externally in unguents, for deſtroying cutaneous inſects, cleanſing old ulcers, &c. Beaten into a maſh with vinegar or brandy, it has ſometimes proved ſervicable for removing hard tumours of the hypochondria; an account is given, in the Edinburgh Eſſays, of two caſes of this kind cured by it.

Injections by the anus of the ſmoke or decoction have been uſed with advantage in caſes of obſtinate conſtipation threatening ileus, of incarcerated hernia, of aſcarides, of ſpaſmodic aſthma, and of perſons apparently dead from drowning or other ſudden cauſes. It has been uſed internally in form of ſyrup, conſerve, and infuſion, in caſes of worms, epilepſy, amenorrhœa, aſthma, &c. but it is certainly too active to be thus ventured on. An infuſion of its aſhes, recommended in dropſy, is not probably different from other ſuch vegetable lixivia.

There is another ſort of tobacco found wild on dunghills in ſeveral parts of England: *Nicotiana ruſtica of Lin.* It ſeems to agree in quality with the hyoſcyamus formerly mentioned, though, as Dale informs us, often ſubſtituted in our markets for the true tobacco: from which it may be diſtinguiſhed by the leaves being much ſmaller, and the flowers not reddiſh as thoſe of the officinal ſort, but of a yellowiſh green colour.

NIGELLA [*Brun.*] *Semen.*

Nigella ſativa Lin.

Fennel-flower; the ſeeds.

This plant is ſown annually in ſome of our gardens; the ſeeds moſt eſteemed are brought from Italy. They have a ſtrong, not unpleaſant ſmell; and a ſubacrid, ſomewhat unctuous diſagreeable taſte. They ſtand recommended as aperient, diuretic, &c. but have long been ſtrangers to practice, and are by ſome ſuſpected to have noxious qualities.

NITRUM [*Lond. Ed*]

Kali nitratum.

Nitre.

Nitre, or ſaltpetre, is a ſalt extracted in Perſia and the Eaſt Indies from certain earths that lie on the ſides of hills; and artificially produced, in ſome parts of Europe from animal and vegetable matters rotted together, with the addition of lime and aſhes, and expoſed for a length of time to the air; without the acceſs of which, nitre is never generated: the ſalt extracted from the earth, &c. by means of water, is purified by colature and cryſtallization.

Pure nitre diſſolves in about ſix times its weight of water, and concretes again into colourleſs tranſparent cryſtals; their figure is that of an hexagonal priſm, terminated by a pyramid of an equal number of ſides. It readily melts in the fire; and in contact with fuel deflagrates, with a bright flame, and conſiderable noiſe; after the detonation is over, a large quantity of alkaline ſalt is found remaining. The taſte of nitre is ſharp, penetrating, and bitteriſh, accompanied with a certain ſenſation of coldneſs.

Nitre is a medicine celebrated in many diſorders. Beſides the aperient quality of neutral ſalts in general, it has a manifeſtly cooling one, by which it quenches thirſt, and abates febrile heats and commotions of the blood: it has one great advantage above the refrigerating medicines of the acid kind, that it does not coagulate the animal juices; blood, which is coagulated by all the mineral acids, and milk, &c. by

acids

acids of every kind, are by nitre rendered more dilute, and preſerved from coagulation: it is, however, ſuppoſed to thicken the thin, ſerous, acrimonious humours, and occaſion an uniform mixture of them with ſuch as are more thick and viſcid; by this means preventing the ill conſequences which would otherwiſe enſue from the former, though it has not, as Junkner ſuppoſes, any property of really obtunding acrimony. This medicine for the moſt part promotes urine; ſometimes gently looſens the belly; but in cold phlegmatic habits, very rarely has this effect, though given in large doſes: alvine fluxes, proceeding from too great acrimony of the bile or inflammation of the inteſtines, are ſuppreſſed by it: in choleric and febrile diſorders, it generally excites ſweat; but in malignant caſes, where the pulſe is low, and the ſtrength loſt, it retards this ſalutary evacuation and the eruption of the exanthemata.

Dr Stahl has written an expreſs treatiſe upon the medical virtues of nitre; in which he informs us, from his own experience, that this ſalt added to gargariſms employed in inflammations of the fauces in acute fevers, thickens the ſalival moiſture upon the palate and fauces into the conſiſtence of a mucus, which keeps them moiſt for a conſiderable time; whereas, if nitre be not added, a ſudden dryneſs of the mouth immediately enſues: that in nephritic complaints, the prudent uſe of nitre is of more ſervice than any of the numerous medicines uſually recommended in that diſeaſe: that nitre gives great relief in ſuppreſſion and heat of urine, whether ſimple or occaſioned by a venereal taint; that it is of great ſervice in acute and inflammatory pains of the head, eyes, ears, teeth, &c. in all eryſipelatous affections whether particular or univerſal, and likewiſe in chronic delirium; and in diarrhœa happening in petechial fevers, nitre mixed with abſorbents and diaphoretics, had the beſt effects, always putting a ſtop to the flux, or rendering the evacuation ſalutary; that in diarrhœa happening in the ſmall-pox, it had been employed with the like ſucceſs, two doſes or three at moſt conſiſting of two, three, or four grains each, according to the age, &c. of the patient, given at the interval of two or three hours, putting a ſtop to the flux, after the bezoardic powders, both with and without opium, had been given without ſucceſs. The ſame author recommends this ſalt likewiſe as a medicine of ſingular ſervice in cholera attended with great anxieties and heat of the blood; in the flatulent ſpaſmodic heartburns familiar to hypochondriacal people; and againſt the loſs of appetite, nauſea, vomiting, &c. with which gouty perſons are ſometimes ſeized, on the pains of the feet, &c. ſuddenly remitting. In caſes of this laſt kind, the uſe of nitre ſurely requires great caution, though the author aſſures us, that no bad conſequences are to be feared from it. Nevertheleſs, he obſerves, that in a phthiſis and ulcerous affection, it has been found to be of no ſervice; and that therefore its uſe may be ſuperſeded in theſe complaints. Indeed, in diſorders of the lungs in general, it is commonly reckoned to be rather hurtful than beneficial. In modern practice, it is given in form of powder or julep as a refrigerant and diuretic; and ſome recommend it much in hemoptyſis, though in ſome conſtitutions it is alleged to have a peculiar influence on the lungs, occaſioning dyſpnœa even when given by the anus. It is ſaid to diſpoſe to cramps in the ſtomach, and to be particularly unfriendly to gouty ſtomachs.

The

The usual dose of this medicine among us is from two or three grains to a scruple; though it may be given with great safety, and generally to better advantage, in larger quantities: the only inconvenience is its not being apt to sit easy on the stomach. Some have affirmed, that this salt loses half its weight of aqueous moisture by fusion, and consequently that one part of melted nitre is equivalent to two of the crystals; but it did not appear, upon several careful trials, to lose so much as one twentieth of its weight. The only officinal preparation of nitre is the troches. It is employed likewise in operations on metallic bodies, for promoting their calcination, as in the *calx antimonii nitrata*.

NUMMULARIA [*Brun.*]

Folia.

Lysimachia nummularia Lin.

Money-wort, or herb two-pence; the leaves.

This grows spontaneously in moist watery places, and creeps on the ground with two little roundish leaves at each joint. Their taste is subastringent, and very lightly acid: hence they stand recommended by Boerhaave in the hot scurvy, and in uterine and other hæmorrhagies. But their effects are so inconsiderable, that common practice takes no notice of them.

NUX MOSCHATA [*Lond. Ed.*] *Oleum essentiale; oleum expressum, oleum macis, vulgo dictum.*

Myristica moschata. Act. Holm. [*Lond.*]

Myristica officinalis Lin. Sup. [*Ed.*]

Nutmeg.

Nutmegs are the kernel of a roundish nut which grows in the East-Indies. The outside covering of this fruit is soft and fleshy like that of a walnut, and spontaneously opens when the nut grows ripe: immediately under this lies the mace, (see the article MACIS) which forms a kind of reticular covering; thro' the fissures whereof appears a hard woody shell that includes the nutmeg. These kernels have long been made use of both for medicinal and culinary purposes, and deservedly looked upon as a warm agreeable aromatic. They are supposed likewise to have an astringent virtue; and are employed with that intention in diarrhœas and dysenteries. Their astringency is said to be increased by torrefaction, but this does not appear to the taste: this treatment certainly deprives the spice of some of its finer oil, and therefore renders it less efficacious for any good purpose; and, if we may reason from analogy, probably abates of its astringency. Nutmegs distilled with water, afford a large quantity of essential oil, resembling in flavour the spice itself; after the distillation, an insipid sebaceous matter is found swimming on the water; the decoction, inspissated, gives an extract of an unctuous, very lightly bitterish taste, and with little or no astringency. Rectified spirit extracts the whole virtue of nutmegs by infusion, and elevates very little of it in distillation: hence the spirituous extract possesses the flavour of the spice in an eminent degree.

Nutmegs yield to the press, when heated, a considerable quantity of limpid yellow oil, which on cooling concretes into a sebaceous consistence. In the shops we meet with three sorts of unctuous substances, called oil of mace, though really expressed from the nutmeg. The best is brought from the East-Indies, in stone jars; this is of a thick consistence, of the colour of mace, and an agreeable fragrant smell: the second sort, which is paler coloured,

and

and much inferior in quality, comes from Holland in ſolid maſſes, generally flat and of a ſquare figure: the third, which is the worſt of all, and uſually called common oil of mace, is an artificial compoſition of ſevum, palm oil, and the like, flavoured with a little genuine oil of nutmeg. Theſe oils yield all that part in which their aromatic flavour reſides, on diſtillation to water, and in pure ſpirit by infuſion: the diſtilled liquor, and ſpirituous tincture nearly reſemble in quality thoſe prepared immediately from the nutmeg. The officinal preparations of nutmegs are, a ſpirit and eſſential oil, and the nutmegs in ſubſtance roaſted. Both the nutmeg itſelf and its eſſential oil enter ſeveral compoſitions, as the confectio aromatica, ſpiritus ammoniæ compoſitus, &c.

NUX PISTACHIA [*Gen.*]
Piſtachia vera Lin.
Piſtachio nut.

This is a moderately large nut, containing a kernel of a pale greeniſh colour, covered with a reddiſh ſkin. The tree which produces it grows ſpontaneouſly in Perſia, Arabia, and ſeveral iſlands of the Archipelago: it bears likewiſe the colds of our own climate, ſo as to have produced fruit not inferior to that which we receive from abroad. Piſtachio nuts have a pleaſant, ſweet, unctuous taſte, reſembling that of almonds. They are ranked among the analeptics; and are by ſome much eſteemed in certain weakneſſes, and in emaciated habits.

NUX VOMICA [*Suec.*]
Strychnos nux vomica Lin.
Nux vomica.

This is the produce of a tree growing in the Eaſt-Indies, where it is ſaid to be uſed as a ſpecific againſt the bite of a ſpecies of water-ſnake. It is conſiderably bitter and deleterious; but has been uſed in doſes from five to ten grains twice a-day in intermittents, particularly obſtinate quartans, and in contagious dyſentery. The *ſtrychnos Ignatii* is a tree of the ſame kind, producing gourd-like fruit, the ſeeds of which are improperly called St Ignatius's beans. Theſe, and alſo the woods or roots, of ſome ſuch trees, called lignum colubrinum or ſnakewood, are very narcotic bitters like the nux vomica.

NYMPHÆA ALBA [*Brun.*]
Radix, flores.
Nymphæa alba Lin.
White water-lily; the root and flowers.

This grows in rivers and large lakes, flowering uſually in June. The roots and flowers have a rough, bitteriſh, glutinous taſte; (the flowers are the leaſt rough); and when freſh, they have a diſagreeable ſmell, which is in great meaſure loſt by drying: they are recommended in alvine fluxes, gleets, and the like. The roots are ſuppoſed by ſome to be in a high degree narcotic, but on no very good foundation. Lindeſtolpe informs us, that in ſome parts of Sweden they were in times of ſcarcity uſed as food, and did not prove unwholſome.

OCHRA [*Brun.*]
Yellow ochre: a ſoft friable ore of iron, of a yellow colour, dug in ſeveral parts of England. It poſſeſſes the virtues of the calces of iron and hæmatites; but in ſo low a degree, that the ſhops have deſervedly rejected it; its principal uſe is as a pigment.

OCULI CANCRORUM. See CANCRORUM OCULI.

ŒNANTHE, *Radix, folia.*
Oenanthe crocata Lin.
Hemlock dropwort.

This is one of three ſpecies of the genus œnanthe, belonging to the umbelliferous claſs, and natives of Great Britain. It grows in moiſt places, with pinnated leaves, ribbed ſtalk, and white thick ſhort bunchy roots. It is known as a virulent poiſon; but the juice of the root, or the infuſion of the leaf, has been recommended in chronic eruptions.

A caſe was ſome time ago publiſhed in the Philoſophical Tranſactions by Dr Pultney; in which, when taken by miſtake in an affection of that kind, it had nearly proved fatal, but was in the end the means of accompliſhing a complete recovery. It has ſince that been a good deal employed at Edinburgh, and in ſome caſes with apparent advantage. The late Dr Hope thought that in many caſes he found an infuſion of leaves highly uſeful in promoting the menſtrual diſcharge. It does not ſeem to have yet found its way into any of our modern pharmacopœias; but it may, we think, be juſtly conſidered as meriting farther attention. It proves diuretic, and is apt to occaſion vertigo and ſickneſs.

OLIBANUM [*Lond. Ed.*] *Gummi reſina.*
Juniperus Lycia Lin.
Olibanum.

This gummi reſinous ſubſtance is brought from Turkey and the Eaſt-Indies, uſually in drops or tears, like thoſe of maſtich, but larger, of a pale yellowiſh, and ſometimes reddiſh colour; a moderately warm pungent taſte, and a ſtrong, not very agreeable ſmell. This drug has received many different appellations, according to its different appearances: the ſingle tears are called ſimply *olibanum*, or *thus*: when two are joined together, they have been called *thus maſculum*, and when two were very large, *thus fœmininum*: ſometimes four or five, about the bigneſs of filberts, are found adhering to a piece of the bark of the tree from which they exuded; theſe have been named *thus corticoſum*; the finer powder, which rubs off from the tears in the carriage, *mica thuris*; and the coarſer powder, *manna thuris*. This drug is not however, in any of its ſtates, what is now called *thus* or *frankincenſe* in the ſhops.

Olibanum conſiſts of about equal parts of gummy and reſinous matters; the firſt ſoluble in water, the other in rectified ſpirit. With regard to its virtues, abundance have been attributed to it, particularly in diſorders of the head and breaſt, in hæmoptoes, and in alvine and uterine fluxes: but its real effects in theſe caſes are far from anſwering the promiſes of the recommenders. Riverius is ſaid to have had large experience of the good effects of this drug in pleuriſies, eſpecially epidemic ones: he directs a ſcooped apple to be filled with a dram of olibanum, then covered and roaſted under the aſhes; this is to be taken for a doſe, three ounces of carduus water drank after it, and the patient covered up warm in bed: in a ſhort time, he ſays, either a plentiful ſweat, or a gentle diarrhœa, enſues, which carries off the diſeaſe. Geoffroy informs us, that he has frequently made uſe of this medicine, after veneſection, with good ſucceſs; but acknowledges that it has ſometimes failed.

OLIVA [*Lond. Ed.*] *Oleum expreſſum.*
Olea Europea Lin.
Olive; the expreſſed oil of the fruit.

This tree grows in the ſouthern parts of France, in Spain, Italy, and other

other warm countries: with us it is usually preserved in the greenhouses of the curious, though it will bear our ordinary winters in the open air, and produce very good fruit. Olives have an acrid, bitter, extremely disagreeable taste: pickled, as we receive them from abroad, they prove less disagreeable; the Lucca olives, which are smaller than the others, have the weakest taste; the Spanish, or larger, the strongest; the Provence, which are of a middling size, are generally the most esteemed.

The oil obtained from this fruit has no particular taste or smell, and does not greatly differ in quality from oil of almonds. Authors make mention of two sorts of this oil, one expressed from the olives when fully ripe, which is our common olive oil: the other, before it has grown ripe; this is called *oleum immaturum*, and *omphacinum*. Nothing is met with in the shops under this name; and Lemery affirms, that there is no such oil; unripe olives, yielding only a viscid juice to the press. From the ripe fruit, two or three sorts are obtained, differing in degree of purity: the purest runs by light pressure: the remaining magma, heated and pressed more strongly, yields an inferior sort, with some dregs at the bottom, called *amurca*. All these oils contain a considerable portion of aqueous moisture, and a mucilaginous substance; which subject them to run into a putrid state: to prevent this, the preparers add some sea-salt, which, imbibing the aqueous and mucilaginous parts, sinks with them to the bottom; by this means the oil becomes more homogeneous, and consequently less susceptible of alteration. In its passage to us, some of the salt, thrown up from the bottom by the shaking of the vessel, is sometimes mixed with and detained in the oil, which, in our colder climate, becomes too thick to suffer it freely to subside; and hence this oil is sometimes found to have a manifest saline taste. Oil olive is used in the simple oleum sulphuratum, and several ointments. It is oftener employed with this last intention than the other expressed oils, but more rarely for internal medicinal purposes, although it is not unfrequently employed against coughs and hoarseness, when united with water by the intervention of alkali.

ONONIS [*Suec.*] *Radix.*
Ononis spinosa Lin.

Rest harrow, cammock, or pettywhin; the root.

This plant grows wild in waste-grounds, and dry fields. The root has a disagreeable smell, and a nauseous sweetish taste; it stands recommended as an aperient and diuretic; but has never been much regarded among us.

OPIUM [*Lond. Ed.*] *Succus inspissatus.*
Papaver somniferum Lin.

Opium.

This juice has not yet been collected in quantity in Europe. Egypt, Persia, and some other provinces of Asia, have hitherto supplied us with this commodity; in those countries, large quantities of poppies are cultivated for this purpose. The opium prepared about Thebes in Egypt, hence named Thebaic opium, has been usually esteemed the best; but this is not now distinguished from that collected in other places. This juice is brought to us in cakes or loaves, covered with leaves, and other vegetable matters, to prevent their sticking together; it is of a solid consistence, yet somewhat soft and tenacious, of a dark reddish brown colour in the

maſs, and when reduced into powder, yellow; of a faint diſagreeable ſmell and a bitteriſh taſte, accompanied with a pungent heat and acrimony.

In the province of Bahar in the Eaſt Indies, it is ſaid, the poppy ſeeds are ſown in October or November at about eight inches diſtance; and are well watered till the plants are about half a foot high, when a compoſt of nitrous earth, dung, and aſhes, is ſpread over the areas; and a little before the flowers appear, they are again watered profuſely till the capſules are half grown: and then the opium is collected; for when fully ripe, they yield little juice. Two longitudinal inciſions, from below upwards, without penetrating the cavity, are made at ſunſet for three or four ſucceſſive evenings; and they are allowed to ripen their ſeeds. In the morning the juice is ſcraped off with an iron ſcoop, and worked in an earthen pot in the ſun's heat till it be of a conſiſtence to be formed into thick cakes of about four pounds weight, which are covered over with the leaves of poppy, or tobacco, and dried. It is ſaid to be adulterated with various unknown ſubſtances, with the extract of the poppy plant procured by boiling, and even with cow-dung. It is purified by reducing it to a pulp with hot water, and ſtrongly preſſing it while hot thro' a linen cloth from its impurities. It is then evaporated by a water-bath or other gentle heat to its original conſiſtence. This extract is found to contain a reſin, a kind of eſſential oil, a principle of odour, an eſſential ſalt, and a ſoapy extract.

Opium has a browniſh colour; a ſtrong peculiar ſmell; a taſte at firſt nauſeous and bitter, but ſoon becoming acrid, with a ſlight warmth; and it appears to have ſome aſtringency, as a watery tincture of it forms an ink with a chalybeate ſolution.

The external and internal effects of opium appear to be various in different conſtitutions, and in the ſame at different times. By ſome, when applied to the tongue, the noſe, the eye, or any part deprived of ſkin, it has been ſaid to ſtimulate and to induce eſpecially in the eye a ſlight degree of redneſs. But if this effect takes place, it is at the utmoſt extremely inconſiderable, particularly when compared with the effect of volatile alkali, ardent ſpirit, or a variety of other articles applied to the ſame organ. And there can be no doubt, that in a very ſhort time the ſenſibility of the part to which it is applied, even when there has not taken place the ſlighteſt mark of preceding ſtimulus or inflammation, is very conſiderably diminiſhed. Some allege, that when applied to the ſkin, it allays pain and ſpaſm, procures ſleep, and produces all the other ſalutary or dangerous effects which reſult from its internal uſe; while others allege, that thus applied it has little or no effect whatever.

This variety probably ariſes from differences in the condition of the ſubcutaneous nerves, and of the ſenſibility of the ſurface as being more or leſs defended. But there is no doubt, that when mixed with cauſtic, it diminiſhes the pain, which would otherwiſe enſue, probably by deadening the ſenſibility of the part.

It ſometimes allays the pain in a carious tooth; and a watery ſolution of it has been uſed in various ulcers, certain ophthalmias, and virulent gonorrhœa, when pain and inflammation have given very great diſtreſs.

Opium, when taken into the ſtomach

mach to such an extent as to have any sensible effect, gives rise to a pleasant serenity of mind, in general proceeding to a certain degree of languor and drowsiness. The action of the sanguiferous system is diminished, the pulse becoming for the most part, softer, fuller, and slower than it was before. There often takes place swelling of the subcutaneous veins, and sweating; both probably the consequences of a diminution of resistance at the surface, from a diminution of muscular action; and accordingly opium diminishes those discharges which depend on muscular action, as is particularly exemplified in its effect of binding the belly. Opium taken into the stomach in a larger dose, gives rise to confusion of head and vertigo. The power of all stimulating causes, as making impressions on the body is diminished; and even at times, and in situations when a person would naturally be awake, sleep is irresistibly induced. In still larger doses, it acts in the same manner as the narcotic poison, giving rise not only to vertigo, headach, tremors, and delirium, but also to convulsions; and these terminating in a state of stupor, from which the person cannot be roused. This stupor is accompanied with slowness of the pulse, and with stertor in breathing, and the scene is terminated in death, attended with the same appearances as take place in an apoplexy.

From these effects of opium in a state of health, it is not wonderful that recourse should have been had to it in disease, as mitigating pain, inducing sleep, allaying inordinate action, and diminishing morbid sensibility. That these effects do result from it, is confirmed by the daily experience of every observer: And as answering one or other of these intentions, most, if not all, of the good consequences derived from it in actual practice are to be explained. If, therefore, by a sedative medicine we mean an article capable of allaying, assuaging, mitigating, and composing, no substance can have a better title to the appellation of sedative than opium.

As answering the purposes of mitigating pain, inducing sleep, allaying inordinate action, and diminishing sensibility it naturally follows, that opium may be employed with advantage in a great variety of different diseases. Indeed there is hardly any affection, in which it may not, from circumstances, be proper; and in all desperate cases, it is the most powerful means of alleviating the miseries of patients.

Some practitioners are averse to its use where an active inflammation takes place but others have recourse to it in such cases, even at an early period, especially after blood-letting; and where such affections are attended not only with pain and spasm, but with watchfulness and cough, it is often productive of the greatest benefit. Opium combined with calomel has of late been extensively employed in every form of active inflammation, and with the greatest success. It is found also to be of very great service in allaying the pain and preventing the symptomatic fever liable to be induced by wounds, fractures, burns, or similar accidents.

In intermittents, it is said to have been used with good effect before the fit, in the cold stage, in the hot stage, and during the interval. Given even in the hot stage, it has been observed to allay the heat, thirst, head-ach, and delirium, to induce sweat and sleep, to cure the disease

eaſe with the leſs bark, and without leaving abdominal obſtructions or dropſy.

It is often of very great ſervice in fevers of the typhoid type, when patients are diſtreſſed with watchfulneſs or diarrhœa. But where theſe or ſimilar circumſtances do not indicate its uſe, it is often diſtreſſing to patients by augmenting thirſt and conſtipation.

In ſmall-pox, when the convulſions before eruption are frequent and conſiderable, opium is liberally uſed. It is likewiſe given from the fifth day onwards; and is found to allay the pain of ſuppuration, to promote the ptyaliſm, and to be otherwiſe uſeful.

In dyſentery, after the uſe of gentle laxatives, or along with them, opium, independently of any effect it may have on the fever, is of conſequence in allaying the tormina and teneſmus, and in obviating that laxity of bowels which is ſo frequently a relict of that diſeaſe.

In diarrhœa, the diſeaſe itſelf generally carries off any acrimony that may be a cauſe, and then opium is uſed with great effect. Even in the worſt ſymptomatic caſes, it ſeldom fails to alleviate.

In cholera and pyroſis, it is almoſt the only thing truſted to.

In colic, it is employed with laxatives; and no doubt often prevents ileus and inflammation, by relieving the ſpaſm. Even in ileus and in incarcerated hernia, it is often found to allay the vomiting, the ſpaſms, the pain, and ſometimes to diminiſh the inflammation, and prevent the gangrene of the ſtrangulated gut.

It is given to allay the pain and favour deſcent of the calculi, and to relieve in jaundice and dyſuria proceeding from ſpaſm.

It is of acknowledged uſe in the different ſpecies of tetanus; affords relief to the various ſpaſmodic ſymptoms of dyſpepſia, hyſteria, hypochondriaſis, aſthma, rabies canina, &c. and has been found uſeful in ſome kinds of epilepſy.

Of late, in doſes gradually increaſed to five grains, three, four, or even ſix times a-day, it has been uſed in ſyphilis; and ſome inſtances are recorded, in which it would ſeem that by this remedy alone, a complete cure had been obtained. In other inſtances, however, after the faireſt trial for a conſiderable length of time, it has been found ineffectual; and upon the whole, it ſeems rather to be uſeful in combating ſymptoms, and in counteracting the effects reſulting from the improper uſe of mercury, than in overcoming the venereal virus.

It is found uſeful in certain caſes of threatened abortion and lingering delivery, in convulſions during parturition, in the after pains and exceſſive flooding.

The only form perhaps neceſſary for opium is that of pill; and as it is ſo ſoluble in every menſtruum, there ſeems the leſs occaſion for the addition of either gum or ſoap. This form is more apt to ſit on the ſtomach than any liquid form, but requires rather more time to produce its effects. The adminiſtration of opium to the unaccuſtomed is ſometimes very difficult. The requiſite quantity of opium is wonderfully different in different perſons, and in different ſtates of the ſame perſon. A quarter of a grain will in one adult produce effects which ten times that quantity will not do in another; and a doſe that might prove fatal in cholera or colic, would not be perceptible in many caſes of tetanus or mania. The loweſt fatal doſe to the unaccuſtomed, as mentioned by authors, ſeems to be four grains; but a dangerous doſe is ſo apt to puke, that it has ſeldom time

to

to occasion death. When given in too small a dose, it is apt to produce disturbed sleep, and other disagreeable consequences; and in some cases it seems impossible to be made to agree in any dose or form. Often, on the other hand, from a small dose, sound sleep, and alleviation of pain will be produced, while a larger one gives rise to vertigo and delirium. Some prefer the repetition of small doses, others the giving of a full dose at once. In some it seems not to have its proper effect till after a considerable time. The operation of a moderate dose is supposed to last in general about eight hours from the time of taking it.

Pure opium is partially soluble in water and in rectified spirit, and totally in proof spirit, wine, or vinegar. Water rubbed with opium, and decanted repeatedly till it come off colourless, yields, on gentle evaporation, an extract which some use and recommend as one of the best preparations of this substance, and which requires to be given in double the dose of common opium.

It it said, that alkalies diminish its soporific effects; that the fixed render it diuretic, the volatile determine it to the skin; and that acids destroy its activity almost entirely. But when conjoined with acids, particularly the diluted vitriolic acid, it often sits easily on the stomach, when it would not otherwise be retained, and afterwards produces all its sedative effects.

The chief officinal preparations of opium are, the opium purificatum, pilulæ ex opio, pulvis opiatus, tinctura opii, and tinctura opii camphorata. Besides this it enters a great variety of different compositions, as the pulvis sudorificus, balsamum anodynum, electuarium japonicum, pulvis e creta compositus, &c.

The occasional bad effects of opium may result from the same power by which, in other states of the system, it proves beneficial. The methods, therefore, proposed of correcting these by roasting, fermentation, long continued digestion, repeated solutions and distillations, have not succeeded.

OPOPANAX [*Lond.*] *Gummi resina.*

Pastinaca opopanax Lin.

Opopanax.

This is a concrete gummy resinous juice, obtained from the roots of an umbelliferous plant, which grows spotaneously in the warmer countries, and bears the colds of this. The juice is brought from Turkey and the East Indies, sometimes in round drops or tears, but more commonly in irregular lumps, of a reddish yellow colour on the outside, with specks of white, inwardly of a paler colour, and frequently variegated with large white pieces. It has a peculiar strong smell, and a bitter, acrid, somewhat nauseous taste. Its virtues are those of an attenuating and aperient medicine. Boerhaave frequently employed it, along with ammoniacum and galbanum, in hypocondriacal disorders, obstructions of the abdominal viscera, and suppressions of the menstrual evacuations from a sluggishness of mucous humours, and a want of due elasticity of the solids: with these intentions it is an useful ingredient in the pilulæ gummosæ and compound powder of myrrh of the London pharmacopœia, but it is not employed in any composition of the Edinburgh. It may be given by itself in the dose of a scruple, or half a dram: a

whole

whole dram proves, in in many conſtitutions, gently purgative.

ORCHIS, vide SATYRION.

ORIGANUM [*Lond.*] *Herba.*
Origanum vulgare Lin.
Wild marjoram; the herb.

This is met with upon dry chalky hills, and in gravelly ſoils, in ſeveral parts of England. It has an agreeable ſmell, and a pungent taſte, warmer than that of the garden marjoram, and much reſembling thyme, which it ſeems to agree with in virtue. An eſſential oil diſtilled from it is kept in the ſhops.

There is another ſort of *origanum* called *Creticum*, whoſe flowers, or rather flowery tops, are ſometimes brought to us from Candy: theſe have an agreeable aromatic flavour, ſomewhat ſtronger than the common ſort.

ORYZA [*Brun.*] *Semen.*
Oryza ſativa Lin.
Rice; the grain.

Rice is the product of many different countries, particularly of the Eaſt Indies: but, as uſed in Britain, it is brought chiefly from Carolina, where the plant is cultivated in large quantities. It is ſufficiently nutritious, and affords an uſeful food in diarrhœas, dyſenteries, and other diſorders from a thin acrimonious ſtate of the juices.

OVUM [*Lond.*]
Ovum gallinaceum Lin.
Hens egg.

Both the yolk and the white of eggs are uſed to give a proper form to different medicines, and are for that purpoſe employed in ſome of the officinal preparations, as in the coagulum aluminis. But they do not ſeem to poſſeſs any medical virtues unleſs as an article of diet; and uſed with that intention, they are highly nutritious. Egg-ſhells when burnt become quicklime, and as ſuch they have ſometimes been uſed in medicine; but they differ in no reſpect from the other calcareous earths.

OXALIS. Vide ACETOSA.

OXYACANTHA GALENI. Vide BERBERIS.

OXYLAPATHUM. Vide HYDROLAPATHUM.

PÆONIA [*Suec.*] *Radix, ſemen.*
Pæonia officinalis Lin.
Male and female peony; the root and ſeed.

Theſe plants are cultivated in our gardens on account of the beauty of their flowers; the female which is the largeſt and moſt elegant, and for this reaſon the moſt common, is the only one with which the ſhops are ſupplied. In quality they are ſcarcely ſenſibly different; and hence they may be taken promiſcuouſly. The roots and ſeeds of peony have, when recent, an unpleaſant ſcent, approaching to that of the narcotic plants, and a ſomewhat glutinous ſubacid taſte, with a light degree of bitterneſs and aſtringency: the leaves alſo diſcover an aſtringent quality, both to the taſte, and by changing chalybeate ſolutions of a purple colour: the flowers have little taſte, and a very faint, not agreeable ſmell. The parts which have chiefly been uſed for medicinal purpoſes are the roots and ſeeds. Theſe are looked upon as emollient, corroborant, and lightly anodyne: and ſuppoſed to be of ſervice in ſome kinds of obſtructions, eroſions of the viſcera, heat of urine, pains in the kidneys, and the

the like. The virtue they are chiefly celebrated for, is that of curing ſpaſmodic and epileptic complaints; which many have been abſurd enough to believe that the root of this plant would do by being only worn about the neck.

PALMA [*Ed.*] *Fructus oleum expreſſum.*

Palma fructu pruniformi.

Palm-tree; the expreſſed oil of the fruit.

This oil is obtained from the kernels of the fruit of a ſpecies of palm-tree, which is a native of the coaſt of Guinea and Cape Verd iſlands: from theſe places it has been tranſplanted into Jamaica and Barbadoes. The oil, as brought to us, is about the conſiſtence of an ointment, and of an orange colour; it has a ſtrong, not diſagreeable ſmell, but very little taſte: by long keeping it loſes its high colour, and becomes white, when it ought to be rejected as no longer fit for uſe. The inhabitants of the Guinea coaſt are ſaid to make this oil part of their food, and to employ it for the ſame purpoſes as we do butter. With us it is rarely given inwardly, and uſed only in ſome external applications, for pains and weakneſs of the nerves, cramps, ſprains, and the like. The common people apply it for the cure of chilblains, and, when early made uſe of, not without ſucceſs.

PAPAVER ALBUM [*Lond.*] *Caput.*

Papaver ſomniferum Lin.

The white poppy; the head.

The heads and ſtalks of theſe plants contain a milky juice; which may be collected in conſiderable quantity, by lightly wounding them when almoſt ripe: this juice, expoſed for a few days to the air, thickens into a ſtiff tenacious maſs, agreeable in quality with the opium brought from abroad. The juices of different poppies appear to be ſimilar to each other; the only difference is in the quantity afforded, which is generally in proportion to the ſize of the plants: the larger, or white poppy, is the ſort cultivated by the preparers of opium in the eaſtern countries, and for medicinal uſes in this.

Poppy-heads, boiled in water impart to the menſtruum their narcotic juice, together with the other juices which they have in common with vegetable matters in general. The liquor ſtrongly preſſed out, ſuffered to ſettle, clarified with whites of eggs, and evaporated to a due conſiſtence, yields about one-fifth, or one-ſixth the weight of the heads, of extract. This poſſeſſes the virtues of opium; but requires to be given in double its doſe to anſwer the ſame intention, which it is ſaid to perform without occaſioning a nauſea and giddineſs, the uſual conſequences of the other. A ſtrong decoction of the heads, mixed with as much ſugar as is ſufficient to reduce it into the conſiſtence of a ſyrup, becomes fit for keeping in a liquid form; and is the only officinal preparation of the poppy. Both theſe preparations are very uſeful ones, though liable to variation in point of ſtrength: nor does this inconvenience ſeem avoidable by any care in the preſcriber or the operator; ſince the poppy-heads themſelves, according to the degree of maturity; and the ſoil and ſeaſon of which they are the produce, contain different proportions of the narcotic matter to the other juices of the plant.

The ſeeds of the poppy are by many reckoned ſoporific: Juncker ſays, they have the ſame quality with thoſe of hyoſcyamus, and Herman looks upon them as a good

ſubſti-

ſubſtitute to opium; miſled probably by an obſervation which holds in many plants, that the ſeeds are more efficacious than the veſſels in which they are contained.

The ſeeds of the poppy have nothing of the narcotic juice which is lodged in their covering and in the ſtalks; an oil expreſſed from them has been uſed for the ſame purpoſes as oil olive; and the ſeeds themſelves have been taken as food: their taſte is ſweetiſh and farinaceous.

PAPAVER ERRATICUM [*Lond.*] *Flos.*

Papaver rhœas Lin.

Red poppy; the flower.

The flowers of this plant yield upon expreſſion a deep red juice, and impart the ſame colour by infuſion to aqueous liquors. A ſyrup of them is kept in the ſhops; this is valued chiefly for its colour; tho' ſome expect from it a lightly anodyne virtue.

PARALYSIS, five PRIMULA [*Suec.*] *Flores.*

Primula veris Lin.

Cowſlips; the flowers.

This plant grows wild in marches and moiſt meadows. The flowers appear in April; they have a pleaſant ſweet ſmell, and a ſubacrid, bitteriſh, ſomewhat aſtringent taſte. An infuſion of them, uſed as tea, is recommended as a mild corroborant in nervous complaints, and in ſome female diſorders, proceeding from a deficiency of the menſtrual purgations. A ſtrong infuſion of them forms, with a proper quantity of ſugar, an agreeable ſyrup, which long maintained a place in the ſhops: but by boiling, even for a little time, their fine flavour is deſtroyed.

PAREIRA BRAVA [*Lond.*] *Radix.*

Ciſſampelos pareira Lin.

Pareira brava; the root.

This is the root of an American plant brought to us from Brazil, in pieces of different ſizes, ſome no bigger than one's finger, others as large as a child's arm; it is crooked, and variouſly wrinkled on the ſurface; outwardly of a dark colour, internally of a dull yellowiſh, and interwoven with woody fibres; ſo that, upon a tranſverſe ſection, a number of concentric circles appear, croſſed with fibres, which run from the centre to the circumference: it has no ſmell; the taſte is a little bitteriſh, blended with a ſweetneſs, like that of liquorice. This root is highly extolled by the Braziſlians and Portugueſe, in a great variety of diſeaſes, particularly againſt ſuppreſſions of urine, nephritic pains, and the calculus. In the two firſt, Geoffroy ſays he has given it with good ſucceſs; and that the patient was almoſt inſtantly relieved by it, a copious diſcharge of urine ſucceeding. He likewiſe obſerved large quantities of gravel, and even ſmall ſtones, voided after its uſe: this effect he attributes not to any lithontriptic power, but to its diſſolving the viſcid mucus by which the ſabulous matter had been detained. He likewiſe relates, that he has had frequent experience of the good effects of this root in deterging and healing ulcers of the kidneys and bladder, where the urine came away purulent and mucous, and could not be voided at all without extreme pain: by the uſe of the *pareira*, the urine ſoon became clear, and of a due conſiſtence, and was evacuated freely; and by joining to this medicine balſam of Copaiba, the ulcer perfectly healed. The attenuating quality which he

he had discovered in this root, induced him to make trial of it in other diseases proceeding from tenacious juices, and in these likewise it fully answered his expectations: in humoral asthmas, where the lungs were stuffed up, and the patient almost suffocated by thick phlegm, an infusion of *pareira*, after many other medicines had proved ineffectual, occasioned a plentiful expectoration, and soon completed a cure: in the jaundice, proceeding from thick bile, it did excellent service: but in another icterical case, where the liver was swelled and hard, this medicine did no good. His dose of the root in substance is from twelve grains to half a dram; in decoction to two or three drams.

These good effects, however, have not been confirmed by later experience; and at present it is so little used, that the Edinburgh college have given it no place in their pharmacopœia.

PARIETARIA [*Lond. Ed.*] *Herba.*

Parietaria officinalis Lin.

Pellitory of the wall; the herb.

This is a small plant growing upon old walls; of an herbaceous subsaline taste, without any smell. It is one of the five emolient herbs, and with this intention is occasionally used. The expressed juice has been given in the dose of three ounces as a diuretic.

PASTINACA [*Suec.*] *Semen.*

Pastinaca sativa Lin.

Parsneps; the seeds.

The roots of the parsnep are used as food, and prove sufficiently nutritious. The seeds are lightly aromatic; and from that circumstance are sometimes, although rarely employed in medicine.

PENTAPHYLLUM [*Lond.*] *Radix.*

Potentilla reptans Lin.

Cinquefoil; the roots.

This grows plentifully in hedges and by road sides. The root is moderately astringent; and as such is sometimes given internally in diarrhœas and other fluxes, and employed in gargarisms for strengthening the gums, &c. The cortical part of the root may be taken, in substance, to the quantity of a dram; the internal part is considerably weaker, and requires to be given in double the dose to produce the same effect; but as we possess many more powerful astringents, the cinquefoil is but little used.

PERSICARIA [*Suec.*] *Herba.*

Polygonum hydropiper Lin.

Water pepper; the leaves.

This species of polygonum is remarkable for its pungent, biting, pepper-like taste. Its virtues are those of an acrid stimulating medicine; in phlegmatic habits, it promotes the urinary discharge, and has frequently done good service in scorbutic complaints. The fresh leaves are sometimes applied externally for cleansing old fistulous ulcers, and consuming fungous flesh: for these purposes they are said to be employed by the farriers, among whom they have been principally used.

PERSICA [*Brun.*] *Flos, nuclei.*

Amygdalus persica Lin.

The peach-tree; its flowers and kernels.

Peach-flowers have an agreeable smell, and a bitterish taste: distilled, without any addition, by the heat of a water-bath, they yield one-sixth their weight, or more, of a whitish liquor, which, as Mr Bolduc observes, communicates to a

large quantity of other liquids a flavour like that of the kernels of fruits. An infusion in water of half an ounce of the fresh-gathered flowers, or a dram of them when dried, sweetened with sugar, proves for children an useful laxative and anthelmintic: the leaves of the tree are, with this intention, somewhat more efficacious, though less agreeable. The fruit has the same quality with the other sweet fruits, that of abating heat, quenching thirst, and gently loosening the belly.

PERUVIANUS CORTEX

[*Lond. Ed.*]

Cinchona officinalis Lin.

Peruvian bark.

The tree which furnishes this bark is described as being in general about fifteen feet high and six inches thick. It somewhat resembles our cherry-tree, grows promiscuously in forests, particularly in the hilly parts of Quito in Peru, and is spontaneously propagated from its seeds.

The bark has some odour, to most people not unpleasant, and very perceptible in the distilled water, in which floating globules, like essential oil, have been observed. Its taste is bitter and astringent, accompanied with a degree of pungency, and leaving a considerably lasting impression on the tongue.

Two species are mentioned, viz. the coloured and the white. The coloured includes the pale, the red, the yellow, and the knotty; their barks being coloured, having the cinchona taste and smell, and the trees having very smooth leaves and purplish flowers. The white includes four varieties, their barks being of a whitish colour, with very little taste or smell, the trees having broad hairy leaves, very fragrant red flowers, with hairs on the inside.

The proper red bark and one of the white kind have been found in the province of Santa Fé.

A species of cinchona has also been discovered in the West India islands, particularly in Jamaica: It is accurately described by Dr Wright, under the title of *Cinchona Jamaicensis*, in a paper published in the Philosophical Transactions. In Jamaica it is called the sea-side beech, and grows from twenty to forty feet high. The white, furrowed, thick outer bark is not used; the dark-brown inner bark has the common flavour, with a mixed kind of taste, at first of horse-radish and ginger, becoming at last bitter and astringent. It seems to give out more extractive matter than the cinchona officinalis. Some of it was imported from St Lucia, in consequence of its having been used with advantage in the army and navy during the last war; and it has lately been treated of at considerable length by Dr Kentish, under the title of St Lucia bark. The fresh bark is found to be considerably emetic and cathartic, which properties it is said to lose on drying.

The pale and the red are chiefly in use in Britain. The pale is brought to us in pieces of different sizes, either flat or quilled, and the powder is rather of a lighter colour than that of cinnamon. The red is generally in much larger, thicker, flattish pieces, but sometimes also in the form of quills, and its powder is reddish like that of Armenian bole. It is much more resinous, and possesses the sensible qualities of the cinchona in a much higher degree than the other sorts; and the more nearly the other kinds resemble the red bark, the better they are now considered

considered. The red bark is heavy, firm, sound, and dry; friable between the teeth; does not separate into fibres; and breaks not shivery, but short, close, and smooth. It has three layers: the outer is thin, rugged, of a reddish brown colour, but frequently covered with mossy matter: the middle is thicker, more compact, darker-coloured, very resinous, brittle, and yields first to the pestle: the inmost is more woody, fibrous, and of a brighter red.

The Peruvian bark yields its virtues both to cold and boiling water; but the decoction is thicker, gives out its taste more readily, and forms an ink with a chalybeate more suddenly than the fresh cold infusion. This infusion, however, contains at least as much extractive matter, but more in a state of solution; and its colour, on standing some time with the chalybeate, becomes darker, while that of the decoction becomes more faint. When they are of a certain age, the addition of a chalybeate renders them green; and when this is the case, they are found to be in a state of fermentation, and effete. Mild or caustic alkalies, or lime, precipitate the extractive matter, which in the case of the caustic alkali is redissolved by a farther addition of the alkali. Lime-water precipitates less from a fresh infusion than from a fresh decoction; and in the precipitate of this last some mild earth is perceptible. The infusion is reduced by age to the same state with the fresh decoction, and then they deposite nearly an equal quantity of mild earth and extractive matter; so that lime-water, as well as a chalybeate, may be used as a test of the relative strength and perishable nature of the different preparations, and of different barks. Accordingly cold infusions are found by experiments to be less perishable than decoctions; infusions and decoctions of the red bark than those of the pale; those of the red bark, however, are found by length of time to separate more mild earth with the lime water, and more extracted matter. Lime-water, as precipitating the extracted matter, appears an equally improper and disagreeable menstruum.

Water is found to suspend the resin by means of much less gum than has been supposed. Rectified spirit of wine extracts a bitterness, but no astringency, from a residuum of twenty affusions of cold water; and water extracts astringency, but no bitterness, from the residuum of as many affusions of rectified spirit. The residua in both are insipid.

From many ingenious experiments made on the Peruvian bark by Dr Irving, which are now published in a dissertation which gained the prize-medal given by the Harveian society of Edinburgh for 1783, the power of different menstrua, as acting upon Peruvian bark is ascertained with greater accuracy than had before been done: and it appears, that with respect to comparative power, the fluids after mentioned act in the order in which they are placed.

Dulcified spirit of vitriol.
Caustic ley.
French brandy.
Rhenish wine.
Soft water.
Vinegar and water.
Dulcified spirit of nitre.
Mild volatile alkali.
Rectified spirit of wine.
Mild vegetable alkali.
Lime-water.

The antiseptic powers of vinegar and bark united are double the sum of those taken separately. The astringent power of the bark is increased by acid of vitriol; the bitter taste is destroyed by it.

The officinal preparations of the bark are,

1. The powder: of this, the firſt parcel that paſſes the ſieve being the moſt reſinous and brittle part, is the ſtrongeſt.

2. The extract: the watery and ſpirituous extracts conjoined form the moſt proper preparations of this kind.

3. The reſin: this cannot perhaps be obtained ſeparate from the gummy part, nor would it be deſirable.

4. Spirituous tincture, this is beſt made with proof ſpirit.

5. The decoction: this preparation, though frequently employed, is yet in many reſpects inferior even to a ſimple watery infuſion.

The beſt form is that of powder; in which the conſtituent parts are in the moſt effectual proportion. The cold infuſion which can be made in a few minutes by agitation, the ſpirituous tincture, and the extract, are likewiſe proper in this reſpect. For covering the taſte, different patients require different vehicles, liquorice, aromatics, acids, port-wine, ſmall-beer, porter, milk, butter-milk, &c. are frequently employed; and thoſe who diſlike the taſte of the bark itſelf, vary in their accounts to which the preference is due; or it may be given in form of electuary with currant-jelly, or with brandy or rum.

According to ſome, the Peruvians learned the uſe of the bark by obſerving certain animals affected with intermittents inſtinctively led to it; while others ſay, that a Peruvian having an ague, was cured by happening to drink of a pool which, from ſome trees having fallen into it, taſted of cinchona; and its uſe in gangrene is ſaid to have originated from its curing one in an aguiſh patient. About the year 1640, the lady of the Spaniſh viceroy, the Comitiſſa del Cinchon, was cured by the bark, which has therefore been called Cortex or Pulvis Comitiſſæ, Cinchona, Chinachina or Chinchina, Kinakina or Kinkina, Quinaquina or Quinquina; and from the intereſt which the Cardinal de Lugo and the Jeſuit fathers took in its diſtribution, it has been called Cortex or Pulvis Cardinalis de Lugo, Jeſuiticus, Patrum, &c.

On its firſt introduction into Europe, it was reprobated by many eminent phyſicians; and at different periods long after, it was conſidered a dangerous remedy; but its character, in proceſs of time, became very univerſally eſtabliſhed.

Practitioners have differed much with regard to the mode of operation of the Peruvian bark. Some have aſcribed its virtues entirely to a ſtimulant power. But while the ſtrongeſt and moſt permanent ſtimuli have by no means the ſame effect with bark in the cure of diſeaſes, the bark itſelf ſhows hardly any ſtimulant power, either from its action on the ſtomach or on other ſenſible parts to which it is applied. From its action on dead animal fibres, there can be no doubt of its being a powerful aſtringent; and from its good effects in certain caſes of diſeaſe, there is reaſon to preſume that it is a ſtill more powerful tonic. To this tonic power ſome think that its action as an antiſceptic is to be entirely attributed: but that, independently of this, it has a powerful effect in reſiſting the ſceptic proceſs to which animal ſubſtances are naturally ſubjected, appears beyond all diſpute, from its effects in reſiſting putrefaction, not only in dead animal ſolids, but even in animal fluids, when entirely detached from the living body.

But although it be admitted that the Peruvian bark acts powerfully as

as an aſtringent, as a tonic, and as an antiſeptic, yet theſe principles will by no means explain all the effects derived from it in the cure of diſeaſes. And accordingly, from no artificial combination in which theſe powers are combined, or in which they exiſt even to higher degree, can the good conſequences reſulting from Peruvian bark be obtained. Many practitioners, therefore, are diſpoſed to view it as a ſpecific. If by a ſpecific we mean an infallible remedy, it cannot indeed be conſidered as intitled to that appellation; but in as far as it is a very powerful remedy, of the operation of which no ſatisfactory explanation has yet been given, it may with great propriety be denominated a ſpecific. But whatever its mode of operation may be, there can be no doubt that it is daily employed with ſucceſs in a great variety of different diſeaſes.

It was firſt introduced, as has already been ſaid, for the cure of intermittent fevers; and in theſe, when properly exhibited, it rarely fails of ſucceſs. Practitioners, however, have differed with regard to the beſt mode of exhibition; ſome prefer giving it juſt before the fit, ſome during the fit, others immediately after it. Some, again, order it in the quantity of an ounce, between the fits; the doſe being the more frequent and larger according to the frequency of the fits; and we think this mode of exhibition, although it may perhaps ſometimes lead to the employment of more bark than is neceſſary, preferable, from being beſt ſuited to moſt ſtomachs. The requiſite quantity is very different in different caſes: and in many vernal intermittents it ſeems even hardly neceſſary.

It often pukes or purges, and ſometimes oppreſſes the ſtomach. Theſe, or any other effects that may take place, are to be counteracted by remedies particularly appropriated to them. Thus, vomiting is often reſtrained by exhibiting it in wine; looſeneſs by combining it with opium; and oppreſſion at ſtomach, by the addition of an aromatic. But unleſs for obviating particular occurrences, it is more ſucceſsful when exhibited in its ſimple ſtate than with any addition; and there ſeems to be little ground for believing that its powers are increaſed by crude ſal ammoniac, or any other additions which have frequently been made.

It is now given, from the very commencement of the diſeaſe, without previous evacuations, which, with the delay of the bark, or under doſes of it, by retarding the cure, often ſeem to induce abdominal inflammation, ſcirrhus, jaundice, hectic, dropſy, &c. ſymptoms formerly imputed to the premature or intemperate uſe of the bark, but which are beſt obviated by its early and large uſe. It is to be continued not only till the paroxyſms ceaſe, but till the natural appetite, ſtrength, and complexion return. Its uſe is then to be gradually left off, and repeated at proper intervals to ſecure againſt a relapſe; to which, however unaccountable, independently of the recovery of vigour, there often ſeems to be a peculiar diſpoſition; and eſpecially when the wind blows from the eaſt. Although, however, moſt evacuants conjoined with the Peruvian bark in intermittents are rather prejudicial than otherwiſe, yet it is of advantage, previous to its uſe, to empty the alimentary canal, particularly the ſtomach; and on this account good effects are often obtained from premiſing an emetic.

It is a medicine which ſeems not only ſuited to both formed and latent

tent intermittents, but to that ſtate of fibre on which all rigidly periodical diſeaſes ſeem to depend; as periodical pain, inflammation, hemorrhagy, ſpaſm, cough, loſs of external ſenſe, &c.

Bark is now uſed by ſome in all continued fevers: at the ſame time attention is paid to keep the bowels clean and to promote when neceſſary the evacuation of redundant bile, always, however, ſo as to weaken the patient as little as poſſible.

In confluent ſmall pox, it promotes languid eruption and ſuppuration, diminiſhes the fever thro' the whole courſe of it, and prevents or corrects putreſcence and gangrene.

In gangrenous ſore throats it is much uſed, as it is externally and internally in every ſpecies of gangrene.

In contagious dyſentery, after due evacuation, it has been uſed by the mouth, and by injection with and without opium.

In all theſe hemorrhagies called paſſive, and which it is allowed all hemorrhagies are very apt to to become, and likewiſe in other increaſed diſcharges, it is much uſed; and in certain undefined caſes of hæmoptyſis, ſome allege that it is remarkably effectual when joined with an abſorbent.

It is uſed for obviating the diſpoſition to nervous and convulſive diſeaſes; and ſome have great confidence in it joined with the acid of vitriol, in caſes of phthiſis, ſcrophula, ill-conditioned ulcers, rickets, ſcurvy, and in ſtates of convaleſcence.

In theſe caſes in general, notwithſtanding the uſe of the acid, it is proper to conjoin it with a milk diet.

In dropſy, not depending on any particular local affection, it is often alternated or conjoined with diuretics, or other evacuants; and by its early exhibition after the water is once drawn off, or even begins to be freely diſcharged, a freſh accumulation is prevented, and a radical cure obtained. In obſtinate venereal caſes, particularly thoſe which appear under the form of pains in the bones, the Peruvian bark is often ſucceſsfully ſubjoined to mercury, or even given in conjunction with it.

PETASITIS [*Roſs.*] *Radix.*
Tuſſilago petaſitis Lin.
Butterbur; the root.

This grows wild by the ſides of ditches and in meadows: it ſends forth ſhort ſcaly ſtalks in the ſpring, bearing ſpikes of purpliſh flowers; after this the leaves appear, which are very large and hollowed about the middle, ſo as to reſemble a bonnet, or what the Greeks called πιτασος, whence the name of the plant. The roots have a ſtrong ſmell; a bitteriſh, aromatic, not very agreeable, taſte; they have been given in the doſe of a dram or more as an aromatic, and likewiſe as an aperient and deobſtruent; theſe virtues, however, they poſſeſs in ſo low a degree, as to have loſt their reputation in the ſhops.

PETROLEUM [*Lond.*]
Bitumen petroleum.
Rock oil.

This is a general name for ſundry liquid bitumens, or mineral oils, which ſpontaneouſly exude from the earth, or from clifts of rocks. Theſe oils are found in almoſt all countries, but in greateſt quantities in the warmer ones: ſome are met with in different parts of England; and many of our common bituminous minerals, as pit-coal, &c. afford, on diſtillation, oils not greatly different from them.

The fineſt ſort of this commodity comes from the duchy of Modena in

in Italy, where three different kinds are found; the beſt is almoſt as clear, fluid, and tranſparent as water, of a highly penetrating, yet not diſagreeable ſmell, ſomewhat like that of rectified oil of amber: the ſecond ſort is of a clear yellow colour, not ſo fluid as the former, leſs penetrating, and partaking more of the oil of amber ſmell: the third, or worſt, is of a blackiſh red colour, of a thicker conſiſtence, and more diſagreeable than the two foregoing. The firſt of theſe is very rarely met with in the ſhops; the ſecond, mixed with a little of the third and ſome ſubtile oil, is uſually ſent us inſtead of it. Petroleum readily catches fire, and, if pure, burns entirely away: diſtilled, it becomes ſomewhat more pellucid than before, a ſmall quantity of yellowiſh matter remaining, and it greatly loſes its natural ſmell: it unites with the eſſential oils of vegetables, not at all with vinous ſpirits: the finer ſorts are ſo light as to ſwim upon the moſt highly rectified ſpirit of wine.

Petroleum is at preſent very rarely employed as a medicine, though if the finer kinds could be procured genuine, they ſhould ſeem to deſerve ſome notice: they are more agreeable than the oil of amber, and milder than that of turpentine; of the virtues of both which they participate. They are principally recommended by authors for external purpoſes, againſt pains and aches, in paralytic complaints, and for preventing chilblains. For theſe intentions, ſome of the more common mineral oils have been made uſe of with good ſucceſs; an oil extracted from a kind of foſſil-coal has been cried up among the common people, under the name of Britiſh oil, for rheumatic pains, &c. even this is often counterfeited by a ſmall portion of oil of amber added to the common expreſſed oils.

PETROLEUM BARBADENSE [*Ed.*]

Barbadoes tar.

This is thicker than the foregoing petrolea, and nearly of the conſiſtence of common tar. It is of a reddiſh black colour, a diſagreeable ſmell, leſs pungent than the other ſorts. This bitumen is found in ſeveral of our American iſlands, where it is eſteemed by the inhabitants of great ſervice as a ſudorific, and in diſorders of the breaſt and lungs; though in caſes of this kind, attended with inflammation, it is certainly improper: they likewiſe apply it externally as a diſcutient, and for preventing paralytic diſorders. Among us it is rarely uſed, and not often to be met with genuine. The London college employ it as a menſtruum for ſulphur in the *balſamum ſulphuris Barbadenſe*, and directed an oil to be diſtilled from it. But in the preſent edition of their work, the oleum petrolei, and petroleum ſulphuratum, as they are ſtyled, are directed to be prepared from petroleum, without ſpecifying what particular petroleum is to be uſed.

PETROSELINUM [*Lond. Ed.*] *Radix, ſemen.*

Apium petroſelinum Lin.

Parſley; the root and ſeed.

This plant is commonly cultivated for culinary purpoſes. The ſeeds have an aromatic flavour, and are occaſionally uſed as carminatives, &c. The root of parſley is one of the five aperient roots, and with this intention is ſometimes made an ingredient in apozems and diet-drinks: if liberally uſed, it is apt to occaſion flatulencies; and thus, by diſtending the viſcera, produces

a contrary effect to that intended by it: the taste of this root is somewhat sweetish, with a light degree of warmth and aromatic flavour.

PEUCEDANUM [*Brun.*] *Radix.*

Peucedanum officinale Lin.

Hog's fennel, or sulphurwort; the root.

This plant grows wild by the sea shores, and in moist shady places. The roots have a strong disagreeable smell, somewhat resembling that of sulphureous solutions; and an unctuous, subacrid, bitterish taste. They are looked upon as stimulating and attenuating, and supposed to promote expectoration and urine: the expressed juice was employed by the antients as an errhine in lethargic disorders. The present practice pays no regard to them with any intention.

PIMENTA [*Lond. Ed.*] *Bacca.*

Myrtus pimenta Lin.

Pimento, or Jamaica pepper; the berry.

This is the fruit of a large tree growing spontaneously in the mountainous parts of Jamaica, called by Sir Hans Sloan *myrtus arborea aromatica, foliis laurinis.* The smell of this spice resembles a mixture of cinnamon, cloves, and nutmegs: its taste approaches to that of cloves, or a mixture of the three foregoing; whence it has received the name of *all spice.* The shops have been for some time accustomed to employ this aromatic as a succedaneum to the more costly spices, and from them it has been introduced into our hospitals.

Pimento is now in our pharmacopœias the basis of a distilled water, a spirit, and an essential oil; and these are not unfrequently employed where aromatics are indicated.

PIMPINELLA [*Ed.*] *Radix.*

Pimpinella saxifraga Lin.

Burnet-saxifrage; the root.

Of this plant several varieties had formerly a place in our pharmacopœias: but all of them seem to be possessed of the same qualities, and to differ only in external appearance; and even in this their difference is so inconsiderable, that Linné has joined them into one, under the general name of *pimpinella.*

The roots of pimpinella have a grateful, warm, very pungent taste, which is entirely extracted by rectified spirit: in distillation, the menstruum arises, leaving all that it had taken up from the root, united into a pungent aromatic resin. This root promises, from its sensible qualities, to be a medicine of considerable utility; though little regarded in common practice. Stahl, Hoffman, and other German physicians, are extremely fond of it, and recommend it as an emollient stomachic, resolvent, detergent, diuretic, diaphoretic, and alexipharmac. They frequently gave it, and not without success, in scorbutic and cutaneous disorders, tumours and obstructions of the glands, and diseases proceeding from a deficiency of the fluid secretions in general. Boerhaave directs the use of this medicine in asthmatic and hydropic cases, where the strongest resolvents are indicated: the form he prefers is a watery infusion; but the spirituous tincture possesses the virtues of the root in much greater perfection.

PIPER INDICUM [*Lond. Ed.*] *Fructus.*

Capsicum annuum Lin.

Guinea-pepper, or capsicum; the fruit.

This is an annual plant cultivated in our gardens; it ripens its red pods in September or October.

The

The taste of capsicum is extremely pungent and acrimonious, setting the mouth as it were on fire. It is chiefly employed for culinary purposes, and has long been used in that way: but of late it has been employed also in the practice of medicine. And there can be little doubt that it furnishes us with one of the purest and strongest stimulants which can be introduced into the stomach; while, at the same time, it has nothing of the narcotic effect of ardent spirit. Dr Makitrick Adair, who was perhaps the first that employed it as a medicine, directs its being given to the extent of six or eight grains in the form of pills, or in the form of tincture made by infusing half an ounce of it in a pound of rectified spirit, and giving from one to three drams diluted for a dose. He has found it useful in a variety of affections, particularly in that morbid disposition which he calls the *cachexia Africana*, and which he considers as a most frequent and fatal predisposition to disease among the slaves. This pepper has also been of late successfully employed in a species of cynanche maligna, which proved very fatal in the West-Indies, resisting the use of Peruvian bark, wine, and the other remedies commonly employed.

A species of it, called in the West-Indies *bird pepper*, is the basis of a powder brought us from thence under the name of *Cayan pepper*.

PIPER LONGUM [*Lond. Ed.*] *Fructus.*

Piper longum Lin.

Long pepper.

Long pepper is the fruit of a plant growing in the East-Indies. It is of a cylindrical figure, about an inch and a half in length; the external surface appears composed of numerous minute grains disposed round the fruit in a kind of spiral direction.

PIPER NIGRUM [*Lond. Ed.*] *Bacca.*

Piper nigrum Lin.

Black pepper; the berry.

Black pepper is the fruit of a plant growing in Java and Malabar, gathered probably before it be fully ripe, and exsiccated in the sun. This is the only spice which we import directly from the East-Indies, all the others coming through the hands of the Dutch.

All the species of pepper have a pungent smell, and a very hot biting taste. The long sort, which is the hottest and strongest, is most frequently used for medicinal purposes; the black, as being more grateful, for culinary ones. The warmth and pungency of these spices reside chiefly in their resinous part; their aromatic odour in an essential oil. The genuine distilled oil smells strong of the pepper, but has very little acrimony; the remaining decoction inspissated, yields an extract considerably pungent. A tincture made in rectified spirit is extremely hot and fiery; a few drops of it set the mouth as it were in a flame.

PIX BURGUNDICA [*Lond. Ed.*]

Pinus abies Lin.

Burgundy pitch.

This is of a solid consistence, yet somewhat soft, of a reddish brown colour, and not disagreeable in smell. Geoffroy relates, that it is composed of galipot (a solid white resin which separates from some of the *terebinthinæ*, as they run from the tree) melted with common turpentine and a little of its distilled oil. Dale informs, from the relation of a gentleman who saw the prepa-

ration of this commodity in Saxony, (from whence we are chiefly supplied with it,) that it is no more than the common turpentine boiled a little.

It is employed only externally. It was formerly an ingredient in several ointments and plasters, but from these it is now rejected. And it is at present chiefly employed with the view of acting as an emplastrum calidum. In some cases it excites even vesications; but in general it produces only redness of the part to which it is applied, with a slight degree of moisture exuding from it. But even from this topical action it is often servicable in cases of cough and similar affections.

PIX LIQUIDA [*Lond. Ed.*]
Pinus sylvestris Lin.
Tar.

This is a thick black unctuous substance, obtained from the roots of old pines by burning them with a close smothering heat. It differs from the native resinous juice of the trees, in having received a disagreeable empyreumatic quality from the fire; and in containing a proportion of the saline and other juices united with the resinous and oily. By the mediation of these a part of the terebinthinate oil proves soluble in aqueous liquors, which extract little or nothing from the purer turpentines. Water impregnated with the more soluble parts of tar, proves, in consequence of this hot, pungent oil, warm and stimulating. It has been said not only to raise the pulse, and quicken circulation, but to increase the vis vitæ; and at one time it was highly extolled as a remedy of the utmost utility, particularly in cold phlegmatic habits. It is now, however, very generally allowed, that it is by no means intitled to the high character which was once given of it, and at present it is very little employed.

PLANTAGO [*Ed.*] *Folia.*
Plantago major Lin.

Common great plantane; the leaves.

This species of plantane is called *septinervia*, from its having seven large nerves or ribs running along each leaf; the narrow-leaved sort has only five ribs, and hence it is named *quinquenervia*: they are both common in fields and by road sides. The leaves are lightly astringent, and the seeds said to be so; and hence they stand recommended in hemorrhagies and other cases where medicines of this kind are proper. The leaves bruised a little are the usual application of the common people to slight flesh wounds.

Plantane has been alleged to be a cure for the bite of the rattle-snake: but for this there is probably but little foundation, although it is one of the principal ingredients in the remedy of the Negro Cæsar, for the discovery of which he received a considerable reward from the assembly of South Carolina.

PLUMBUM [*Lond.*]
Lead.

This is the heaviest of the metals except gold: it melts in a moderate heat, and if kept in fusion, is soon converted partly into fume, and partly into an ash-coloured calx (*plumbum ustum*); this exposed to a stronger fire, in such a manner that the flame may play upon its surface, becomes first yellow, and afterwards of a deep red (*minium* or red lead): if in this process the fire be suddenly raised to a considerable height, the calx melts, assumes the appearance of oil, and on cooling forms a soft leafy substance of a yellowish or reddish colour (*litharge*). The proper menstruum

ſtruum of this metal is aquafortis: the vegetable acids likewiſe diſſolve it, but in very ſmall quantity: a quart of diſtilled vinegar will not take up a dram; expoſed to the ſteam of vinegar, it is by degrees corroded into a white powder *(ceruſſe)* which is conſiderably more eaſy of ſolution. The calces of lead diſſolve by heat, in expreſſed oils; theſe mixtures are the baſis of ſeveral officinal plaſters and unguents. Cryſtals of this metal made with diſtilled vinegar (called, from their ſweetiſh taſte, *ſugar* of lead; but more properly *plumbum acetatum* or *ceruſſa acetata*) are likewiſe kept in the ſhops.

Preparations of lead, given internally, are ſuppoſed to incraſſate the fluids, abate inflammations, and reſtrain venereal deſires. The ſugar is a ſtrong aſtringent, and has been uſed, it is ſaid, with good ſucceſs in hemorrhagies, the fluor albus, ſeminal gleets, &c. A tincture is recommended for the like purpoſes; and for checking immoderate ſweats in phthiſical caſes; whence it has been uſually called *tinctura antiphthiſica*. The internal uſe of this metal is nevertheleſs full of danger, and ought never to be ventured on unleſs in deſperate caſes, after other medicines have been employed without taking effect: it often occaſions violent colics; and though it ſhould not prove immediately hurtful, its ill conſequences are ſure, though ſlow: tremors, ſpaſms, or lingering tabes, too frequently follow.

The preparations of lead with vinegar are much uſed externally in inflammation.

POLYPODIUM [*Suec.*] *Radix.*
Polypodium vulgare Lin.
Polypody; the root.

Polypody is a capillary plant, growing on old walls, the trunks of decayed trees, &c. That found upon the oak is generally preferred, though not ſenſibly different from the others. The roots are long and ſlender, of a reddiſh brown colour on the outſide, greeniſh within, full of ſmall tubercles, which reſemble to the feet of an inſect; whence the name of the plant; the taſte of theſe roots is ſweetiſh and nauſeous.

Polypody has been employed in medicine for many ages; nevertheleſs its virtues remain as yet to be determined. The antients held it to be a powerful purger of melancholic humours; by degrees, it came to be eſteemed an evacuator of all humours in general: at length it was ſuppoſed only to gently looſen the belly; and afterwards even this quality was denied it: ſucceeding phyſicians declared it to be aſtringent; of this number is Boerhaave, who eſteems it moderately ſtyptic and antiſcorbutic. For our own part we have had no direct experience of it, nor is it employed in practice: it is probable that (as Juncker ſuppoſes) the freſh root may looſen the belly, and that it has not this effect when dry.

POMPHOLYX [*Suec.*]

This is an impure calx of zinc, produced in the furnaces where copper is made into braſs by calamine, the ore of zinc. It is found adhering to the covers of the crucibles, &c. either in form of thin cruſts, or of a light downy matter, generally of a pure white colour, tho' ſometimes yellowiſh.

POPULUS [*Brun.*] *Gemma.*
Populus niger Lin.
The black poplar; its buds.

The black poplar is a large tree, growing wild in watery places; it is eaſily raiſed, and very quick of growth. The young buds or rudi-

ments of the leaves, which appear in the beginning of ſpring, abound with a yellow, unctuous, odorous juice. They have hitherto been employed chiefly in an ointment, which received its name from them; tho' they are certainly capable of being applied to other purpoſes: a tincture of them made in rectified ſpirit yields when inſpiſſated a fragrant reſin ſuperior to many of thoſe brought from abroad.

PORTULACA [*Brun.*] *Herba, ſemen.*

Portulaca oleracea Lin.

Purſlane; the herb and ſeed.

This herb is cultivated in gardens for culinary uſes. The ſeeds are ranked among the leſſer cold ſeeds, and have ſometimes been employed in emulſions and the like, along with the others of that claſs.

PRIMULA [*Suec.*] *Flores radix.*

Primula veris Lin.

Primroſe; the flower and root.

This is a low plant, growing wild in woods and hedges, and producing pale yellow flowers in the ſpring. The leaves have an herbaceous taſte. The roots are ſlightly bitter, with a kind of aromatic flavour, ſomewhat reſembling aniſe-ſeeds; their expreſſed juice, purified by ſettling, is ſometimes uſed as a ſternutatory. The flowers have an agreeable, but very weak flavour: an infuſion of them in wine, and a ſpirit diſtilled from them, are employed in ſome places as cordial and nervine.

PRUNELLA [*Brun.*] *Herba.*

Prunella vulgaris Lin.

Self-heal; the plant.

This plant grows wild in meadows and paſture grounds, and produces thick ſpikes of purpliſh flowers during the latter part of the ſummer. It has an herbaceous roughiſh taſte: and hence ſtands recommended in hemorrhagies and alvine fluxes: it has been principally celebrated as a vulnerary, whence its name; and in gargariſms for aphthæ and inflammations of the fauces.

PRUNUM GALLICUM [*Lond.*] *Fructus.*

Prunus domeſtica Lin.

The common prune.

The medical effects of the common prunes are, to abate heat, and gently looſen the belly; which they perform by lubricating the paſſage, and ſoftening the excrement. They are of conſiderable ſervice in coſtiveneſs, accompanied with heat or irritation, which the more ſtimulating cathartics would tend to aggravate: where prunes are not of themſelves ſufficient, their effects may be promoted by joining them with a little rhubarb or the like; to which may be added ſome carminative ingredient to prevent their occaſioning flatulencies.

PRUNUM SYLVESTRE [*Lond.*]

Prunus ſpinoſa Lin

The ſloe.

Theſe have a very rough auſtere taſte, eſpecially before they have been mellowed by froſts. The juice of the unripe fruit, inſpiſſated to a proper conſiſtence, is called *acacia Germanica*, and uſually ſold in the ſhops for the true Egyptian acacia: it is equally aſtringent with the Egyptian ſort; but has more of a ſharp or tartiſh taſte, without any thing of the ſweetiſh reliſh of the other. A conſerve of the fruit is directed by the London college.

PSYLLIUM [*Suec.*] *Semen.*

Plantago pſyllium Lin.

Fleawort; the ſeeds.

This

This is a sort of plantane, growing wild in the warmer climates, and sometimes met with in our gardens: it differs from the common plantanes in having its stalks branched, with leaves upon them; hence it is named by Ray *plantago caulifera*. The seeds have been usually brought from the south of France; they are small, but supposed to resemble in shape a flea, whence the English name of the plant. These seeds have a nauseous, mucilaginous taste: boiled in water, they yield a considerable quantity of mucilage, which is sometimes used in emollient glysters and the like. Alpinus relates, that among the Egyptians this mucilage is given in ardent fevers, and that it generally either loosens the belly or promotes sweat.

PTARMICA [*Brun.*] *Radix.*
Achillea ptarmica Lin.
Sneeze-wort; the root.

This grows wild upon heaths and in moist shady places; the flowers, which are of a white colour, come forth in June and July. The roots have an acrid smell, and a hot biting taste: chewed they occasion a plentiful discharge of saliva; and when powdered and snuffed up the nose, provoke sneezing. These are the only intentions to which they have been usually applied.

PULEGIUM [*Lond. Ed.*] *Herba, flos.*
Mentha pulegium Lin.
Penny-royal the flower.

This plant grows spotaneously, in several parts of England on moist commons, and in watery places; creeping upon the ground, and striking roots at the joints. Our markets have been for some time supplied with a garden sort, which is larger than the other, and grows upright.

Pennyroyal is a warm, pungent herb, of the aromatic kind, similar to mint, but more acrid and less agreeable: it has long been held in great esteem as an aperient and deobstruent, particularly in hysteric complaints, and suppressions of the uterine purgations. For these purposes, the distilled water is generally used, or an infusion of the leaves. It is observable, that both water and rectified spirit extract the virtues of this herb by infusion, and likewise elevate the greatest part of them in distillation.

In the shops are kept a simple water, a spirit, and an essential oil obtained from this vegetable. But under any form it is now less frequently employed than formerly.

PULMONARIA MACULOSA [*Brun.*] *Herba.*
Pulmonaria officinalis Lin.
Spotted lung-wort; the leaves.

This is met with in our gardens: the leaves are of a green colour spotted with white; of an harbaceous somewhat mucilaginous taste, without any smell. They stand recommended against ulcers of the lungs, phthisis, and other similar disorders: experience, however, gives little countenance to these virtues, nor does the present practice expect them.

PULSATILLA NIGRICANS [*Ed*] *Herba cum flore.*
Anemone pratensis Lin.
Meadow anemone.

This is the most acrid of the anemonies; and is recommended by Dr Stoerk, in the quantity of half an ounce of the distilled water, or five grains of the extract, twice or thrice a-day in venereal nodes, pains, ulcers with caries, chronic eruptions, amenorrhœa, various chronic affections of the eye, particularly blindness from obscurities of the cornea. Its common effects are nausea

ſea or vomiting, an augmented diſcharge of urine, diarrhœa, and increaſed pain at firſt in the affected part.

PYRETHRUM [*Lond. Ed.*] *Radix.*

Anthemis pyrethrum Lin.

Pellitory of Spain; the root.

This plant, though a native of the warm climates, bears the ordinary winters of this, and often flowers ſucceſſively from Chriſtmas to May; the roots alſo grow larger with us than thoſe with which the ſhops are uſually ſupplied from abroad.

Pellitory root has no ſenſible ſmell; its taſte is very hot and acrid, but leſs ſo than that of arum; the juice expreſſed from it has ſcarcely any acrimony, nor is the root itſelf ſo pungent when freſh as after it has been dried. Water, aſſiſted by heat, extracts ſome ſhare of its taſte; rectified ſpirit, the whole; neither of them elevate any thing in diſtillation. The principal uſe of pyrethrum in the preſent practice is as a maſticatory, for promoting the ſalival flux, and evacuating viſcid humours from the head and neighbouring parts; by this means it often relieves the toothach, ſome kinds of pains of the head, and lethargic complaints.

QUASSIA [*Lond. Ed.*] *Lignum, cortex, radix.*

Quaſſia amara Lin.

Quaſſy; the wood, bark, and root.

This root is about the thickneſs of a man's arm; its wood is whitiſh, becoming yellowiſh by expoſure to the air. It has a thin, grey, fiſſured brittle bark, which is deemed in Surinam more powerful than the wood. Quaſſy has no ſenſible odour, but is one of the moſt intenſe, durable, pure bitters known. Its infuſion, decoction, and tincture, are almoſt equally bitter and yellowiſh, and not blackened by a chalybeate.

It was much uſed in a fatal fever in Surinam, and is ſaid to be effectual in ſuppreſſing vomiting.

It is ſaid to be leſs antiſeptic than Peruvian bark; but, like colombo, another pure bitter, it preſerves bile longer from putrefaction. The beſt form is that of pills of the extract.

QUERCUS [*Lond. Ed.*] *Cortex.*

Quercus robur Lin.

Oak tree; the bark.

This bark is a ſtrong aſtringent; and hence ſtands recommended in hæmorrhagies, alvine fluxes, and other preternatural or immoderate ſecretions; and in theſe it is ſometimes attended with good effects. Some have alleged, that by the uſe of this bark every purpoſe can be anſwered which may be obtained from Peruvian bark. But after ſeveral very fair trials, we have by no means found this to be the caſe.

RADIX INDICA LOPEZIANA [*Ed.*]

Radix Indica a Joanne Lopez denominata, Gaubii Adverſaria.

Indian, or Lopez root.

The tree is unknown. Neither the woody or cortical part of the root has any remarkable ſenſible quality. A ſlight bitterneſs is perceptible, and it is recommended, like ſimarouba, in diarrhœas even of the colliquative kind, in half-dram doſes four times a-day. Little of this root has been brought to Europe: but ſome of thoſe who have had an opportunity of employing it, ſpeak in very high terms of the effects obtained from it.

RAPHANUS

RAPHANUS RUSTICANUS [*Lond. Ed.*] *Radix.*
Cochlearia armoracia Lin.
Horſe-radiſh root.

This plant is ſometimes found wild about river ſides, and other moiſt places; for medicinal and culinary uſes, it is cultivated in gardens; it flowers in June, but rarely perfects its ſeeds in this country. Horſe-radiſh root has a quick pungent ſmell, and a penetrating acrid taſte; it nevertheleſs contains in certain veſſels a ſweet juice, which ſometimes exudes upon the ſurface. By drying, it loſes all its acrimony, becoming firſt ſweetiſh, and afterwards almoſt inſipid: if kept in a cool place, covered with ſand, it retains its qualities for a conſiderable time. The medical effects of this root are, to ſtimulate the ſolids, attenuate the fluids, and promote the fluid ſecretions: it ſeems to extend its action through the whole habit, and affect the minuteſt glands. It has frequently done ſervice in ſome kinds of ſcurvies and other chronic diſorders, proceeding from a viſcidity of the juices, or obſtructions of the excretory ducts. Sydenham recommends it likewiſe in dropſies, particularly thoſe which ſometimes follow intermittent fevers. Both water and rectified ſpirit extract the virtues of this root by infuſion, and elevate them in diſtillation: along with the aqueous fluid, an eſſential oil ariſes, poſſeſſing the whole taſte and pungency of the horſe-radiſh. From this root, the ſpiritus raphani compoſitus derives its name, and no inconſiderable ſhare of its activity.

REALGAR, a foſſil compoſed of arſenic and ſulphur. Vide ARSENICUM.

RESINA ALBA. Vide TEREBINTHINA.

RHABARBARUM [*Lond. Ed.*] *Radix.*
Rheum palmatum Lin.
Rhubarb; the root.

This plant, which is of the dock kind, grows ſpontaneouſly in China, and endures the colds of our climate. Two ſorts of rhubarb are met with in the ſhops. The firſt is imported from Turkey and Ruſſia, in roundiſh pieces freed from the bark, with a hole through the middle of each; they are externally of a yellow colour, and on cutting appear variegated with lively reddiſh ſtreaks. The other, which is leſs eſteemed, comes principally from China in longiſh pieces, harder, heavier, and more compact than the foregoing. The firſt ſort, unleſs kept very dry, is apt to grow mouldy and worm-eaten; the ſecond is leſs ſubject to theſe inconveniences. Some of the more induſtrious artiſts are ſaid to fill up the worm-holes with certain mixtures, and to colour the outſide of the damaged pieces with powder of the finer ſorts of rhubarb, and ſometimes with cheaper materials: this is often ſo nicely done, as effectually to impoſe upon the buyer, unleſs he very carefully examines each piece. The marks of good rhubarb are, that it be firm and ſolid, but not flinty; that it be eaſily pulveriſable, and appear, when powdered, of a fine bright yellow colour: that upon being chewed, it impart to the ſpittle a ſaffron tinge, without proving ſlimy or mucilaginous in the mouth. Its taſte is ſubacrid, bitteriſh, and ſomewhat aſtringent: the ſmell lightly aromatic.

Rhubarb is a mild cathartic, which operates without violence or irritation, and may be given with ſafety even to pregnant women and to children. In ſome people, however, it always occaſions ſevere griping. Beſides its purgative quality,

it

it is celebrated as an aſtringent, by which it ſtrengthens the tone of the ſtomach and inteſtines, and proves uſeful in diarrhœa and diſorders proceeding from a laxity of the fibres. Rhubarb in ſubſtance operates more powerfully as a cathartic than any of the preparations of it. Watery tinctures purge more than the ſpirituous ones; whilſt the latter contain in greater perfection the aromatic, aſtringent, and corroborating virtues of the rhubarb. The doſe, when intended as a purgative, is from a ſcruple to a dram or more.

The Turkey rhubarb is, among us, univerſally preferred to the Eaſt India ſort, though this laſt is for ſome purpoſes at leaſt equal to the other; it is manifeſtly more aſtringent, but has ſomewhat leſs of an aromatic flavour. Tinctures drawn from both with rectified ſpirit, have nearly the ſame taſte: on diſtilling off the menſtruum, the extract left from the tincture of the Eaſt India rhubarb proved conſiderably the ſtrongeſt. They are both the produce of the ſame climate, and probably the roots of the ſame plant taken up at different ſeaſons, or cured in a different manner.

Rhubarb is now raiſed in Britain equal to any that is imported.

The officinal preparations of this drug are, a watery and a vinous infuſion, a ſimple and a compound tincture. It is alſo an ingredient in different compoſitions, ſuch as the elixir ex aloe et rheo, the pilulæ ſtomachicæ, and ſome others.

RHAMNUS CATHARTICUS. Vide SPINA CERVINA.

RHAPONTICUM [*Roſt.*] *Radix.*

Rheum raponticum Lin.

Rhapontic; the roots.

Rhapontic is a large roundiſh-leaved plant, growing wild on the mountain Rhodope in Thrace, from whence it was brought into Europe, about the year 1610, by Alpinus: it bears the hardeſt winters of this climate, and is not unfrequent in our botanic gardens. The root of this plant (which appears evidently to have been the rhubarb of the antients) is by ſome confounded with the modern rhubarb, though conſiderably different both in appearance and quality. The rhapontic is of a duſky colour on the ſurface, of a looſe ſpongy texture; conſiderably more aſtringent, but leſs purgative than rhubarb; with this laſt intention, two or three drams are required for a doſe.

RHODODENDRON [*Ed.*] *Herba.*

Rhododendron chryſanthum Lin.

Rhododendron; the herb.

This plant is a native of Siberia, where a weak infuſion of it is uſed as tea. The Siberians uſe a kind of decoction of it in rheumatiſm and gout. They put about two drams of the dried ſhrub in an earthen pot, with about ten ounces of boiling water, keeping it near a boiling heat for a night, and this they take in the morning. It is ſaid to occaſion heat, thirſt, a degree of delirium, and a peculiar creeping-like ſenſation in the parts affected. The uſe of liquids is not allowed during its operation, as this is apt to induce vomiting. In a few hours the pain and diſagreeable ſymptoms are relieved, and it is ſaid two or three doſes generally complete the cure. The powder has alſo been uſed in doſes of a few grains.

Hitherto it has been ſo little employed in Britain, that it has no place in the London pharmacopœia; But in ſome caſes in which it has been uſed at Edinburgh, it has been productive of good effects; and accordingly

cordingly it is now introduced into the Edinburgh pharmacopœia, as well as into the Pharmacopœia Roſſica, where it had firſt a place.

RIBES NIGRUM [*Lond.*]
Fructus.
Ribes nigrum Lin.
Black currants.

RIBES RUBRUM [*Lond.*]
Fructus.
Ribes rubrum Lin.
Red currants; the berry.

Theſe have a cool acidulous ſweet taſte, ſufficiently agreeable both to the palate and ſtomach.

The black currants are the baſis of an officinal ſyrup, and an inſpiſſated juice, which are frequently employed with advantage in recent catarrhs, attended with ſlight ſore throat.

RICINUS [*Lond. Ed.*] *Semen.*
Ricinus communis Lin.
Palma Chriſti; the ſeed.

Theſe ſeeds are nuts about the ſize of ſmall beans: and are, like the bitter almonds, deleterious. The oil, commonly called nut or caſtor oil, is got by expreſſion, retains ſomewhat of the mawkiſhneſs and acrimony of the nut: but is, in general, a ſafe and mild laxative in caſes where we wiſh to avoid irritation, as in thoſe of colic, calculus, gonorrhœa, &c. and ſome likewiſe uſe it as a purgative in worm-caſes. Half an ounce or an ounce commonly anſwers with an adult, and a dram or two with an infant.

An oil of an inferior kind, but poſſeſſing nearly the ſame qualities, is obtained by boiling.

With many, the averſion to oil in its pure ſtate is ſo great, that this purgative cannot be taken without great reluctance; and accordingly different modes of taking it have been propoſed. Some prefer taking it ſwimming on a glaſs of water or peppermint water, or in the form of emulſion, with mucilage, or with the addition of a little rum. Sometimes it is neceſſary to increaſe its activity by the addition of ſome other purgative. And with this view, nothing anſwers better than a ſmall quantity of tincture of jalap, or compound tincture of ſenna.

ROSA DAMASCÆNA [*Lond. Ed.*] *Petalum.*
Roſa centifolia Lin.
The damaſk roſe; the petal.

This elegant flower is common in our gardens. Its ſmell is very pleaſant and almoſt univerſally admired; its taſte bitteriſh and ſubacrid. In diſtillation with water, it yields a ſmall portion of butyraceous oil, whoſe flavour exactly reſembles that of the roſes. This oil, and the diſtilled water, are very uſeful and agreeable cordials. Hoffman ſtrongly recommends them as of ſingular efficacy for raiſing the ſtrength, cheering and recruiting the ſpirits, and allaying pain; which they perform without raiſing any heat in the conſtitution, rather abating it when inordinate. Damaſk roſes, beſides their cordial aromatic virtue, which reſides in their volatile parts, have a mildly purgative one, which remains entire in the decoction left after the diſtillation: this with a proper quantity of ſugar, forms an agreeable laxative ſyrup, which has long kept its place in the ſhops.

ROSA RUBRA [*Lond. Ed.*]
Petalum.
Roſa gallica Lin.
The red roſe; the petal.

This has very little of the fragrance of the foregoing pale ſort; and inſtead of its purgative quality, a mild gratefully aſtringent one, eſpecially before the flower has opened: this is conſiderably improved by

haſty exſiccation; but both the aſtringency and colour are impaired by ſlow drying. In the ſhops are prepared a conſerve, an infuſion, a honey, and a ſyrup of this flower.

ROSMARINUS [*Lond. Ed.*] *Cacumen, flos.*

Roſmarinus officinalis Lin.

Roſemary; the top and flower.

This is a native of Spain, Italy, and the ſouthern parts of France, where it grows in great abundance upon dry gravelly grounds; in the like ſoils it thrives beſt with us, and likewiſe proves ſtronger in ſmell than when produced in moiſt rich ones: this obſervation obtains in almoſt all the aromatic plants.

Roſemary has a fragrant ſmell, and a warm pungent bitteriſh taſte, approaching to thoſe of lavender: the leaves and tender tops are ſtrongeſt; next to theſe the cup of the flower; the flowers themſelves are conſiderably the weakeſt, but moſt pleaſant. Aqueous liquors extract a great ſhare of the virtues of roſemary leaves by infuſion, and elevate them in diſtillation; along with the water ariſes a conſiderable quantity of eſſential oil, of an agreeable ſtrong penetrating ſmell. Pure ſpirit extracts in great perfection the whole aromatic flavour of the roſemary, and elevates very little of it in diſtillation: hence the reſinous maſs left upon abſtracting the ſpirit, proves an elegant aromatic, very rich in the peculiar qualities of the plant. The flowers of roſemary give over great part of their flavour in diſtillation with pure ſpirit; by watery liquors, their fragrance is much injured; by heating, deſtroyed. The officinal preparations of roſemary are, an eſſential oil, and a ſpirit commonly known by the title of *Hungary water*; the tops are alſo an ingredient in the compound tincture of lavender, and ſome other formulæ.

RUBIA [*Lond. Ed.*] *Radix.*

Rubia tinctorum Lin.

Madder; the root.

Madder is raiſed in ſome of our gardens for medicinal purpoſes: it was formerly cultivated among us, in quantity, for the uſe of the dyers, who are at preſent ſupplied from Holland and Zealand. It has little or no ſmell, and a ſweetiſh taſte, mixed with a little bitterneſs. The virtues attributed to it are thoſe of a detergent and aperient; whence it has been uſually ranked among the opening roots, and recommended in obſtructions of the viſcera, particularly of the kidneys; in coagulations of the blood from falls or bruiſes, in the jaundice, and beginning dropſies.

It is obſervable, that this root, taken internally, tinges the urine of a deep red colour; and in the Philoſophical Tranſactions, we have an account of its producing a like effect upon the bones of animals who had it mixed with their food: all the bones, particularly the more ſolid ones, were changed, both externally and internally, to a deep red, but neither the fleſhy or cartilaginous parts ſuffered any alteration: ſome of theſe bones macerated in water for many weeks together, and afterwards ſteeped and boiled in ſpirit of wine, loſt none of their colour, nor communicated any tinge to the liquors. The colouring part of this root appears therefore to be poſſeſſed of great ſubtility of parts; whence its medical virtues ſeem to deſerve inquiry.

Some uſe it in half-dram doſes ſeveral times a day as an emmenagogue.

RUBUS IDÆUS [*Lond.*] *Fructus.*

Rubus idæus Lin.

Raſpberry; the fruit.

This ſhrub is common in our gardens; and has likewiſe, in ſome parts of England been found wild; it flowers in May; and ripens its fruit in July. Raſpberries have a pleaſant ſweet taſte, accompanied with a peculiarly grateful flavour: on account of which they are chiefly valued. As to their virtues, they moderately quench thirſt, abate heat, ſtrengthen the viſcera, and promote the natural excretions. An agreeable ſyrup, prepared from the juice is directed to be kept in the ſhops.

RUBUS NIGER [*Roſs*] *Bacca.*

Rubus fruticoſus Lin.

The bramble; the fruit.

This ſhrub is frequently found wild in woods and hedges. The berries have a faint taſte, without any of the agreeable flavour of the foregoing; the leaves are ſomewhat aſtringent.

They enter no officinal compoſition, are rarely directed in practice, and hence have now no place in our pharmacopœias.

RUSCUS [*Brun.*] *Radix.*

Ruſcus aculeatus Lin.

Butcher's broom; the root.

This is a ſmall prickly plant, ſometimes found wild in woods. The root has a ſoft ſweetiſh taſte, which is followed by a bitteriſh one: it is one of the five aperient roots; and with this intention is ſometimes made an ingredient in apozems and diet-drinks, for opening ſlight obſtructions of the viſcera, purifying the blood and juices, and promoting the fluid ſecretions.

RUTA [*Lond. Ed.*]

Ruta graveolens Lin.

Rue; the herb.

This is a ſmall ſhrubby plant, met with in gardens, where it flowers in June, and holds its green leaves all the winter; we frequently find in the markets a narrow-leaved ſort, which is cultivated by ſome in preference to the other, on account of its leaves appearing variegated during the winter with white ſtreaks.

Rue has a ſtrong ungrateful ſmell, and a bitteriſh, penetrating taſte; the leaves, when in full vigour, are extremely acrid, inſomuch as to inflame and bliſter the ſkin, if much handled. With regard to their medicinal virtues, they are powerfully ſtimulating, attenuating, and detergent; and hence, in cold, phlegmatic habits, they quicken the circulation, diſſolve tenacious juices, open obſtructions of the excretory glands, and promote the fluid ſecretions.

The writers on the materia medica in general have entertained a very high opinion of the virtues of this plant. Boerhaave is full of its praiſes; particularly of the eſſential oil, and the diſtilled water cohobated or rediſtilled ſeveral times from freſh parcels of the herb; after ſomewhat extravagantly commending other waters prepared in this manner, he adds with regard to that of rue, that the greateſt commendations he can beſtow upon it fall ſhort of its merit: "What medicine (ſayshe) can be more efficacious for promoting ſweat and perſpiration, for the cure of the hyſteric paſſion, and of epilepſies, and for expelling poiſon." Whatever ſervice rue may be of in the two laſt caſes, it undoubtedly has its uſe in the others: the cohobated water, however, is not the moſt efficacious preparation of it. An extract made by rectified ſpirit contains, in a ſmall compaſs, the whole virtues of the rue; this menſtruum taking up by infuſion all the pungency and flavour of the plant, and elevating nothing in diſtillation. With water, its peculiar flavour and warmth,

warmth arise; the bitterness, and a considerable share of the pungency, remaining behind.

The only officinal preparation of rue now retained in our pharmacopœias is the extract: but it is an ingredient in the compound powder of myrrh, and some other compositions.

SABINA [*Lond. Ed.*] *Folium. Juniperus sabina Lin.*
Savin; the leaf.

This is an evergreen shrub, clothed with small, somewhat prickly, leaves: it does not produce fruit till very old, and hence has been generally reputed barren. The leaves have a bitter, acrid, biting taste; and a strong disagreeable smell: distilled with water, they yield an essential oil, in larger quantity, as Hoffman observes, than any other known vegetable, the turpentine tree alone excepted.

Savin is a warm, irritating, aperient medicine, capable of promoting sweat, urine, and all the glandular secretions. The distilled oil is one of the most powerful emmenagogues; and is found of service in obstructions of the uterus or other viscera, proceeding from a laxity and weakness of the vessels, or a sluggish indisposition of the juices.

The powder is sometimes used for consuming venereal warts.

The essential oil and a watery extract are kept in the shops; and, as well as the rue, the savin is likewise an ingredient in the compound powder of myrrh.

SACCHARUM NON PURIFICATUM [*Lond.*]
Brown sugar.

SACCHARUM PURIFICATUM, five Bis coctum [*Lond.*]
Double refined sugar.

SACCHARUM CANTUM ALBUM et RUBRUM [*Rofs.*]
Sugar candy, white and brown.

Sugar is the essential salt of the *arundo saccharifera*, a beautiful large cane growing spontaneously in the East Indies, and some of the warmer parts of the West, and cultivated there in great quantity. The expressed juice of the cane is clarified with the addition of lime-water, without which it does not assume the form of a true sugar, and boiled down to a due consistence; when, being removed from the fire, the saccharine part concretes from the grosser unctuous matter, called *treacle* or *melasses*. This, as yet impure or brown sugar, is farther purified in conical moulds, by spreading moist clay on the upper broad surface: the watery moisture, slowly percolating through the mass, carries with it a considerable part of the remains of the treacly matter. This clayed sugar, imported from America, is by our refiners dissolved in water, the solution clarified by boiling with whites of eggs and despumation, and after due evaporation poured into moulds: as soon as the sugar has concreted, and the fluid part strained off, the surface is covered with moist clay as before. The sugar, thus once refined, by a repetition of the process becomes the double-refined sugar of the shops. The candy, or crystals, are prepared by boiling down solutions of sugar to a certain pitch, and then removing them into a hot room, with sticks set across the vessel for the sugar to shoot on: these crystals prove of a white or brown colour, according as the sugar was pure or impure.

The uses of sugar as a sweet are sufficiently well known. The impure sorts contain an unctuous or oily matter,

matter; in consequence of which they prove emollient and laxative. The crystals are most difficult of solution; and hence are propereſt where this soft lubricating sweet is wanted to dissolve slowly in the mouth.

SAGAPENUM [*Lond. Ed.*]
Gummi resinæ.
Sagapenum, the gum resin.

This is a concrete juice brought from Alexandria, either in distinct tears, or run together in large masses. It is outwardly of a yellowish colour; internally, somewhat paler, and clear like horn; it grows soft on being handled, and sticks to the fingers: its taste is hot and biting: the smell disagreeable, by some resembled to that of a leek, by others to a mixture of asafœtida and galbanum.

Sagapenum is an useful aperient and deobstruent; and not unfrequently prescribed either alone or in conjunction with ammoniacum or galbanum, for opening obstructions of the viscera, and in hysterical disorders arising from a deficiency of the menstrual purgations. It likewise promotes expectoration, and proves of considerable service in some kinds of asthmas and chronic catarrh, where the lungs are oppressed by viscid phlegm. It is most commodiously given in the form of pills; from two or three grains to half a dram may be given every night or oftener, and continued for some time. When sagapenum is scarce, the druggists usually supply its place with the larger and darker coloured masses of bdellium, broken into pieces; which are not easily distinguished from it.

Sagapenum was an ingredient in the compound powder of myrrh, electuary of bay-berries, mithridate and theriaca of the London pharmacopœia.

But from such of these formulæ as are still retained it is now rejected. It enters the gum pills of the London college; but it has no place either in that or any other formula of the Edinburgh pharmacopœia, a preference being given to ammoniacum and galbanum.

SAGO [*Gen.*]
Cycas circinalis Lin.
Sago.

This is the produce of an oriental tree of the palm tribe. The medullary part of the tree is beaten with water, and made into cakes, which are used by the Indians as bread. They likewise put the powder into a funnel, and wash it with water over a hair-sieve, which allows only the finer part to pass through the water. The water, on standing, depositeſ the fecule; which being passed through perforated copper plates, is formed into grains called *Sago*. It furnishes agreeable jelly with water, milk, or broth, and is much used in phthisical and convalescent cases.

SAL ALKALINUS FIXUS VEGETABILIS, *Præsertim is qui* pearl-ashes *lingua vernacula dicitur.*

CINERES CLAVELLATI VEL KALI IMPURUM [*Lond.*]

Vegetable fixed alkaline salt, particularly that named in English, pearl ashes.

The Edinburgh college having rejected the oily alkalies of broom, wormwood, &c. order the pearl-ashes to be burnt in a crucible, dissolved in water, and the liquor to be decanted and evaporated to dryness in an iron pot. If the salt be thus properly purified, it dissolves in its weight of water; the solution is free from colour and smell, supplies the place of the oleum tartari per deli-

deliquium, and in a dry ſtate that of the ſalt of tartar.

The mild vegetable alkali is uſed in form of lotion, in ſome cutaneous diſeaſes, and as a ſtimulant to the inactive ſtate of the veſſels in certain ulcers. It is uſed internally as a diaphoretic or diuretic, and of late in calculous complaints.

When the liquid alkali is deprived of its fixed air by quicklime, it forms the cauſtic or ſoap ley, which in a diluted ſtate is injected by ſome for removing the mucus and poiſon in recent gonorrhœa. The pure ſalt obtained by evaporation forms the common cauſtic, which, on account of its deliqueſcent, and conſequently ſpreading quality, is little uſed. The cauſtic ley diluted is the baſis of the common quack lithontriptics.

It ſometimes allays the ſymptoms of calculus without any evidence of its having acted on the ſtone, and in ſome caſes the ſtone has ſhown marks of its action; but its continued uſe ſeldom fails to injure the conſtitution, or the inteſtinal canal.

BARILLA, ſive NATRON, [*Lond.*]

This does not differ much in its general properties from the vegetable alkali. It is procurable from the aſhes of ſea plants, particularly from kali, and it is called *ſoda* or *barilla*. This purified has been recommended by ſome in ſcrophula.

SAL ALKALINUS FIXUS FOSSILIS, *Vulgo ſal ſodæ, ex herba kali uſta* [*Ed.*]

Foſſil fixed alkaline ſalt; commonly called ſalt of ſoda, from the burnt herb kali.

SAL AMARUS [*Lond. Ed.*] *Magneſia vitriolata.*

The bitter purging ſalt.

This ſalt is extracted from the bitter liquor remaining after the cryſtallization of common ſalt from ſea-water. It is the ſalt of the Epſom and ſome other purging mineral waters. We uſually meet with it in minute cryſtals, of a ſnowy appearance; diſſolved in water, and cryſtallized afreſh, it concretes, if properly managed, into larger ones, of a rectangular priſmatic figure, reſembling thoſe of the artificial cathartic ſalt of Glauber, for which they are ſometimes ſubſtituted in the ſhops.

All theſe ſalts have a penetrating bitteriſh taſte; they diſſolve in leſs than an equal weight of water: in a moderate heat, they melt, bubble up into bliſters, and ſoon change into a white ſpongy maſs, with the loſs of above half their weight: this calx taſtes more bitter than the ſalts did at firſt, and almoſt totally diſſolves again in water. The acid of theſe ſalts is the vitriolic: the baſis of the natural is magneſia. Hence upon adding alkaline ſalts to a ſolution of the ſalts of Glauber, no change enſues; whilſt the ſalts obtained from the purging waters, or the bittern of marine waters, grow milky upon this addition, and depoſite their earth, the alkaline ſalt being taken up in its place.

The ſal amarus is a mild and gentle purgative, operating with ſufficient efficacy, and in general with eaſe and ſafety, rarely occaſioning any gripes, ſickneſs, or the other inconveniencies which purgatives of the reſinous kind are too often accompanied with. Six or eight drams may be diſſolved for a doſe in a proper quantity of common water; or four, five, or more, in a pint, or quart of the purging waters. Theſe liquors may likewiſe be ſo managed as to promote evacuation, by the other emunctories: if the patient be kept warm, they increaſe perſpiration; and by moderate

moderate exercise in a cool air, the urinary discharge. Some allege this salt has a peculiar effect in allaying pain, as in colic, even independently of evacuation.

SAL AMMONIACUS
[*Lond. Ed.*]

Ammonia muriata.

Sal ammoniac.

This is an artificial saline concrete, said to be prepared by sublimation from the soot of cow-dung. It is brought from Egypt in considerable quantities, but we are now principally supplied in Britain from our own manufactures, several of which are established in different parts of the country. In these, though the cheapest and most commodious process for preparing it is not generally known, yet it is with good reason conjectured to be principally formed from sea-salt and soot, the former furnishing the marine acid, the latter the volatile alkali. It is in general in large round cakes, convex on one side, and concave on the other; and sometimes in conical loaves: on breaking, they appear composed of needles, or striæ, running transversely. The best are almost transparent, colourless, and free from any visible impurities: those most commonly met with are of a grey yellowish colour on the outside, and sometimes black, according as the matter is more or less impure. The taste of this salt is very sharp and penetrating. It dissolves in twice its weight, or a little less, of water; and upon evaporating a part of the menstruum, concretes again into long shining spicula, or thin fibrous plates like feathers.

Sal ammoniac appears from experiments to be composed of marine acid, united with a volatile alkali. If mingled with fixt alkalies, or absorbent earths, and exposed to a moderate fire, a large quantity of volatile salt sublimes, the acid remaining united with the intermedium; if treated in the same manner with quicklime, an exceeding penetrating volatile spirit arises, but no solid salt is obtained. Exposed alone to a considerable heat, it sublimes entire, without any alteration of its former properties: ground with certain metallic substances, it elevates some part of them along with itself, and concretes with the remainder into a mass, which readily flows into a liquor in a moist air; this appears in most respects similar to a saturated solution of the metal made directly in spirit of salt.

Pure sal ammoniac is a perfectly neutral salt, capable of attenuating viscid humours, and promoting a diaphoresis, or the urinary discharge, according to certain circumstances in the constitution, or as the patient is managed during the operation. If a dram of the salt be taken, dissolved in water, and the patient kept warm, it generally proves sudorific; by moderate exercise, or walking in the open air, its action is determined to the kidneys; a large dose gently loosens the belly, and a still larger proves emetic. This salt is recommended by many as an excellent febrifuge, and by some has been held a great secret in the cure of intermittents. It is undoubtedly a powerful aperient, and seems to pass into the minutest vessels; and as such may in some cases be of service, either alone, or joined with bitters or the bark. This salt is sometimes employed externally as an antiseptic, and in lotions and fomentations, for œdematous and scirrhous tumours: and also in gargarisms for inflammations of the tonsils, and for attenuating and dissolving thick viscid mucus. Some use it in form of lotion, in certain ulcers, and for removing common warts.

SAL MURIATICUS [*Lond.*]
Natron muriatum.

Sea salt, or common alimentary salt.

This is a neutral salt, differing from most others in occasioning thirst when swallowed. It dissolves in somewhat less than three times its weight of water; the solution slowly evaporated, and set to shoot, affords cubical crystals, which unite together into the form of hollow truncated pyramids. Exposed to the fire, it crackles and flies about, or decrepitates, as it is called: soon after it melts, and appears fluid as water. A small quantity of this salt, added to the nitrous acid, enables it to dissolve gold, but renders it unfit for dissolving silver; if a solution of silver be poured into liquors containing even a minute portion of common salt, the whole immediately grows turbid and white; this phenomenon is owing to the precipitation of the silver.

This salt is either found in a solid form in the bowels of the earth, or dissolved in the waters of the sea or saline springs.

Sal gemmæ. Rock salt. This is met with in several parts of the world, but in greatest plenty in certain deep mines, of prodigious extent, near Cracow in Poland; some is likewise found in England, particularly in Cheshire. It is for the most part very hard, sometimes of an opaque snowy whiteness, sometimes of a red, green, blue, and other colours. When pure, it is perfectly transparent and colourless; the other sorts are purified by solution in water and crystallization, in order to fit them for the common uses of salt.

2. *Sal marinus. Sal marinus Hispanus.* The salt extracted from sea-water and saline springs. Sea waters yield from one fiftieth to one-thirtieth their weight of pure salt: several springs afford much larger quantities; the celebrated ones of our own country at Nantwich, Northwick, and Droitwitch, yield (according to Dr Brownrig) from one-fixth to somewhat more than one-third. There are two methods of obtaining the common salt from these natural solutions of it: The one, a hasty evaporation of the aqueous fluid till the salt begins to concrete, and fall in grains to the bottom of the evaporating pan, from whence it is raked out, and set in proper vessels to drain from the brine or bittern: the other, a more slow and gradual evaporation, continued no longer than till a saline crust forms on the top of the liquor; which, upon removing the fire, soon begins to shoot, and run into crystals of a cubical figure. In the warmer climates, both these processes are effected by the heat of the sun. The salts obtained by them differ very considerably: that got by a hasty evaporation is very apt to relent in a moist air, and run per deliquium; an inconvenience to which the crystallized salt is not subject: this last is likewise found better for preserving meat, and sundry other purposes.

Common salt in small quantities, is supposed to be warming, drying, and to promote appetite and digestion: in large doses, as half an ounce, it proves cathartic. It is sometimes used to check the operation of emetics, and make them run off by stool; and as a stimulus in glysters.

SAL CORNU CERVI; *i. e. Sal alkalinus volatilis, siccus, ex ossibus vel cornibus animalium igne paratus, ab oleo purificatus.*

Salt of hartshorn; *i. e.* dry volatile alkaline salt, obtained by means of fire from the bones or horns of animals, freed from its oil. [*Ed.*]

This

This article, to which the London college now give the name of *ammonia præparata*, will afterwards come to be mentioned under the head of *Salts*. Here, with respect to its medical properties, it is sufficient to observe, that it is a quick and powerful stimulant, and as such is employed externally to the nose in syncope; and with oil in cynanche, and some other inflammations, as a rubefacient. It is used internally in various low states of the system.

SALIX [*Ed.*] *Ramulorum cortex.*

Salix fragilis Lin.

The willow; the bark of the branches.

This bark possesses a considerable degree of bitterness and astringency. It has been recommended by some as a substitute for the Peruvian bark; and of the indigenous barks which have been proposed, it is perhaps one of the most effectual. But in point of efficacy it is in no degree to be compared with the Peruvian bark.

SALVIA [*Lond. Ed.*] *Folium.*

Salvia officinalis Lin.

Sage; the leaf.

Of the salvia different varieties are in use, particularly those distinguished by the titles of *major* and *minor*. These plants are common in our gardens, and flower in May and June; the green and red common sages differ no otherwise than in the colour of their leaves; the seeds of one and the same plant produce both: the small sort is a distinct species; its leaves are narrower than the others, generally of a whitish colour, and never red; most of them have at the bottom a piece standing out on each side in the form of ears. Both sorts are moderately warm aromatics, accompanied with a light degree of astringency and bitterness; the small sort is the strongest, the large most agreeable.

The writers on the materia medica are full of the virtues of sage, and derive its name from its supposed salutary qualities.

Salvia salvatrix, naturæ conciliatrix.

Cur moriatur homo, cui salvia crescit in horto.

Its real effects are, to moderately warm and strengthen the vessels; and hence, in cold phlegmatic habits, it excites appetite and proves servicable in debilities of the nervous system. The best preparation for these purposes is an infusion of the dry leaves, drank as tea; or a tincture, or extract, made with rectified spirit, taken in proper doses; these contain the whole virtues of the sage; the distilled water and essential oil, only its warmth and aromatic quality, without any thing of its roughness or bitterness. Aqueous infusions of the leaves, with the addition of a little lemon juice, prove an useful diluting drink in febrile disorders. They are of an elegant colour, and sufficiently agreeable to the palate.

SAMBUCUS [*Lond. Ed.*] *cortex interior, flos, bacca.*

Sambucus nigra Lin.

Black-berried elder; the inner bark, flower, and berry.

This is a large shrub, frequent in hedges; it flowers in May, and ripens its fruit in September. The inner green bark of its trunk is gently cathartic; an infusion of it in wine, or the expressed juice, in the dose of half an ounce or an ounce, is said to purge moderately, and in small doses to prove an efficacious deobstruent, capable of promoting all the fluid secretions. The young buds, or rudiments of the leaves, are strongly purgative, and act with so much violence as to

be deservedly accounted unsafe. The flowers are very different in quality: these have an agreeable aromatic flavour, which they give over in distillation with water, and impart by infusion to vinous and spirituous liquors. The berries have a sweetish, not unpleasant taste; nevertheless, eaten in substance, they offend the stomach: the expressed juice, inspissated to the consistence of a rob, proves an useful aperient medicine; it opens obstructions of the viscera, promotes the natural evacuations, and if continued for a length of time, does considerable service in sundry chronical disorders. It is observable, that this juice, which in its natural state is of a purplish colour, tinges vinous spirits of a deep red.

This article was formerly kept in the shops, under several different formulæ. The succus spissatus and unguentum sambuci still retain a place in the London pharmacopœia; but the sambucus does not now enter any fixed formula in that of Edinburgh.

A rob was prepared from the berries; an oil of elder by boiling the flowers in olive oil; and an ointment by boiling them in a mixture of oil and suet.

SANGUIS DRACONIS

[*Lond. Ed.*] *Gummi resina.*

Dragon's blood.

It is perhaps surprising, that while the London and Edinburgh colleges have of late made so many changes in the names of articles, they should still have retained one so absurd as that which is affixed to this article, especially as that name is not in the smallest degree derived from any of those different vegetables from whence this article is said to be obtained. What is called dragon's blood is a gummi-resinous substance brought from the East Indies, either in oval drops, wrapped up in flag leaves; or in large masses, composed of smaller tears. It is said to be obtained from the palmi-juncus draco, the calamus rotang, the dracena draco, the pterocarpus draco, and several other vegetables.

The writers on the materia medica in general, give the preference to the former, tho' the others are not unfrequently of equal goodness; the fine dragon's blood of either sort breaks smooth, free from any visible impurities, of a dark red colour, which changes upon being powdered into an elegant bright crimson. Several artificial compositions, coloured with the true dragon's blood, or Brazil wood, are sometimes sold instead of this commodity: some of these dissolve like gums, in water; others crackle in the fire, without being inflammable; while the genuine sanguis draconis readily melts and catches flame, and is not acted on by watery liquors. It totally dissolves in pure spirit, and tinges a large quantity of the menstruum of a deep red colour: it is likewise soluble in expressed oils, and gives them a red hue, less beautiful than that communicated by anchusa. This drug, in substance, has no sensible smell or taste; when dissolved, it discovers some degree of warmth and pungency. It is usually, but without foundation esteemed a gentle astringent, and sometimes directed as such in extemporaneous prescription, against seminal gleets, the fluor albus, and other fluxes. In these cases, it is supposed to produce the general effects of resinous bodies, lightly incrassating the fluids, and somewhat strengthening the solids. But in the present practice it is very little used, either externally or internally. It is still however an ingredient in the emplastrum thuris of the London pharmacopœia.

It

It formerly entered the pulvis ſtypticus of the Edinburgh college; but from this it has with propriety been rejected, giving place to a much more active article, the gum-kino: and perhaps the ſanguis draconis might even with propriety be omitted from our pharmacopœias, at leaſt till its qualities be really aſcertained: For even ſuppoſing ſome of theſe red coloured reſins ſold under this name to poſſeſs medical properties, yet it can hardly be imagined that all reſins of this colour have the ſame properties.

SANICULA [*Brun.*] *Folia.*

Sanicula Europæa Lin.

Sanicle; the leaves.

This plant grows wild in woods and hedges, and flowers in May. The leaves have an herbaceous roughiſh taſte: they have long been celebrated for ſanative virtues, both internally and externally. Nevertheleſs their effects, with any intention are not conſiderable enough to gain them a place in the preſent practice.

SANTALUM ALBUM [*Brun.*]

Santalum album Lin.

White ſaunders.

This is a wood brought from the Eaſt Indies in billets about the thickneſs of a man's leg, of a pale whitiſh colour. This is not, as has been ſuppoſed, a different ſpecies from the following, but is that part of the yellow ſaunders wood which lies next the bark. Great part of it, as met with in the ſhops, has no ſmell or taſte, nor any ſenſible quality that can recommend it to the notice of the phyſician.

SANTALUM CITRINUM [*Ed.*]

Santalum album Lin.

Yellow ſaunders.

This article, which is the interior part of the wood of the ſame tree which furniſhes the former, is of a pale yellowiſh colour, of a pleaſant ſmell, and a bitteriſh aromatic taſte, accompanied with an agreeable kind of pungency. This elegant wood might undoubtedly be applied to valuable medical purpoſes, though at preſent very rarely uſed. Diſtilled with water it yields a fragrant eſſential oil, which thickens in the cold into the conſiſtence of a balſam. Digeſted in pure ſpirit, it imparts a rich yellow tincture; which being committed to diſtillation, the ſpirit ariſes without bringing over any thing conſiderable of the flavour of the ſaunders. The reſiduum contains the virtues of ſix times its weight of the wood. Hoffman looks upon this extract as a medicine of ſimilar virtues to ambergris; and recommends it as an excellent reſtorative in great debilities.

SANTALUM RUBRUM [*Lond. Ed.*]

Pterocarpus ſantolinus Lin.

Red ſaunders.

This is a wood brought from the Eaſt Indies in large billets, of a compact texture, a dull red, almoſt blackiſh colour on the outſide, and a deep brighter red within. This wood has no manifeſt ſmell, and little or no taſte. It has been commended as a mild aſtringent, and a corroborant of the nervous ſyſtem; but theſe are qualities that belong only to the yellow ſort.

The principal uſe of red ſaunders is as a colouring drug; with which intention it is employed in ſome formulæ, particularly in the *tinctura lavendulæ compoſita*. It communicates a deep red to rectified ſpirit, but gives no tinge to aqueous liquors;

liquors: a small quantity of the resin, extracted by means of spirit, tinges a large one of fresh spirit, of an elegant blood red. There is scarcely any oil, that of lavender excepted, to which it communicates its colour. Geoffroy and others take notice, that the Brazil woods are sometimes substituted for red saunders; and the college of Brussels are in doubt whether all that is sold among them for saunders be not really a wood of that kind. According to the account which they have given, their saunders is certainly the Brazil wood; the distinguishing character of which is, that it imparts its colour to water.

SANTONICUM [*Lond. Ed.*]
Semen.
Artemisia Santonicum Lin. Lond.
Artemisia austriaca Jacquin Ed.
Worm seed.

This seed is the produce of a plant of the wormwood or mugwort kind, growing in the Levant.

It is a small, light, chaffy seed, composed as it were of a number of thin membranous coats, of a yellowish colour, an unpleasant smell, and a very bitter taste. These seeds are celebrated for anthelmintic virtues, which they have in common with other bitters; and are sometimes taken with this intention, either mixed with molasses, or candied with sugar: their unpleasant taste renders the form of a powder or decoction inconvenient.

SAPO EX OLEO OLIVÆ ET NATRO CONFECTUS [*Lond.*]

SAPO ALBUS HISPANUS [*Ed.*]
White Spanish soap.

SAPO MOLLIS.
Common soft soap.

SAPO NIGER.
Black soft soap.

Soap is composed of expressed vegetable oils or animal fats, united with caustic alkaline lixivia. The first sort, or white hard soap, is made with the finer kinds of olive oil; the common soft sort with coarser oils, fat, tallow, or a mixture of all these; and the black (as is said) with train-oil.

The purer hard soap is the only sort intended for internal use. This triturated with oily or resinous matters, renders them soluble in water, and hence becomes an useful ingredient in pills composed of resins, promoting their dissolution in the stomach, and union with the animal fluids, though gum is certainly preferable. Boerhaave was a great admirer of soap; and in his private practice seldom prescribed any resinous pills without it, unless where an alkalescent or putrid state of the juices forbad its use. From the same quality, soap likewise seems well fitted for dissolving such oily or unctuous matters as it may meet with in the body, attenuating viscid juices, opening obstructions of the viscera, and deterging all the vessels it passes through. It has likewise been supposed a powerful menstruum for the human calculus; and a solution of it in lime-water, is one of the strongest solvents that can be taken with safety into the stomach. The virtue of this composition has been thought considerably greater than the aggregate of the dissolving powers of the soap and lime water when unmixed.

The soft soaps are more penetrating and acrimonious than the hard. Their principal medical use is for some external purposes, although by some, when dissolved in ale, they have been directed to be taken

taken in considerable quantity in the cure of jaundice.

Hard soap gives name to an officinal plaster, liniment, and balsam.

SAPONARIA [*Suec.*] *Folia, radix.*

Saponaria officinalis Lin.

Soapwort, or bruisewort; the herb and root.

This grows wild, though not very common, in low wet places, and by the sides of running waters; a double flowered sort is frequent in our gardens. The leaves have a bitter, disagreeable taste; agitated with water they raise a saponaceous froth, which is said to have nearly the same effects with solutions of soap itself, in taking out spots from cloaths, and the like. The roots taste sweetish and somewhat pungent, and have a light smell like those of liquorice: digested in rectified spirit, they yield a strong tincture, which loses nothing of its taste or flavour in being inspissated to the consistence of an extract. This elegant root has not come much into practice among us, though it promises from its sensible qualities to be a medicine of considerable utility. It is much esteemed by the German physicians as an aperient, corroborant, and sudorific; and preferred by the college of Wirtemberg, by Stahl, Neumann, and others, to sarsaparilla.

SARCOCOLLA [*Lond.*] *Gummi-resina.*

This is a concrete juice, brought from Persia and Arabia in small whitish, yellow grains, with a few of a reddish, and sometimes of a deep red colour, mixed with them; the whitest tears are preferred, as being the freshest. It is supposed to be the product of the Penæa sarcocolla of Linné. Its taste is bitter, accompanied with a dull kind of sweetness. It dissolves in watery liquors, and appears to be chiefly of the gummy kind, with a small admixture of resinous matter. It is principally celebrated for conglutinating wounds and ulcers (whence its name σαρκοκολλα, *flesh-glue*), a quality to which neither this nor any other drug has a just title. It is an ingredient in the *pulvis e cerussa.*

SARSAPARILLA [*Lond. Ed.*] *Radix.*

Smilax sarsaparilla Lin.

Sarsaparilla; the root.

This root is brought from the Spanish West Indies. It consists of a great number of long strings hanging from one head: the long roots, the only part used, are about the thickness of a goose-quill, or thicker, flexible, composed of fibres running their whole length; so that they may be stript into pieces from one end to the other. They have a glutinous, bitterish, not ungrateful taste, and no smell. It was first brought into Europe by the Spaniards, about the year 1563, with the character of a specific for the cure of the lues venerea, a disease which made its appearance a little before that time; and likewise of several obstinate chronic disorders. Whatever good effects it might have produced in the warmer climates, it proved unsuccessful in this; insomuch, that many have denied it to have any virtue at all. It appears, however, from experience, that though very unequal to the character which it bore at first, it is in some cases of considerable use as a sudorific, where more acrid medicines are improper. The best preparations are, a decoction and extract made with water; a decoction of half an ounce of the root, or dram of the extract, which is equivalent thereto, may be taken for a dose.

SASSAFRAS [*Lond. Ed.*]
Lignum, radix ejusque cortex.
Laurus sassafras Lin.

Sassafras; the wood, root, and its bark.

Sassafras is brought to us in long straight pieces, very light, and of a spongy texture, covered with a rough fungous bark, outwardly of an ash colour, inwardly of the colour of rusty iron. It has a fragrant smell, and a sweetish aromatic subacrid taste: the bark tastes much stronger than any other part; and the small twigs stronger than the large pieces. As to the virtues of this root, it is a warm aperient and corroborant; and frequently employed with good success for purifying the blood and juices. For these purposes, infusions made from the rasped root or bark, may be drank as tea. In some constitutions, these liquors, by their fragrance, are apt, on first taking them, to affect the head: in such cases they may be advantageously freed from their flavour by boiling. A decoction of sassafras boiled down to the consistence of an extract, is bitterish and subastringent. Hoffman assures us, that he has frequently given this extract to the quantity of a scruple at a time, with remarkable success, for strengthening the tone of the viscera in cachexies, and also in the decline of intermittent fevers, and in hypochondriacal spasms. Sassafras yields, in distillation, an extremely fragrant oil, of a penetrating pungent taste, so ponderous, notwithstanding the lightness of the drug itself, as to sink in water. Rectified spirit extracts the whole taste and smell of sassafras, and elevates nothing in evaporation: hence the spirituous extract proves the most elegant and efficacious preparation, as containing the virtue of the root entire.

The only officinal preparation of sassafras is the essential oil. The sassafras itself is an ingredient in the decoction of the woods; and the oil in the elixir guaiacinum.

SATUREIA [*Suec.*] *Herba.*
Satureia hortensis Lin.

Summer savory; the herb.

This herb is raised annually in gardens for culinary purposes. It is a very pungent warm aromatic; and affords in distillation with water a subtile essential oil, of a penetrating smell, and very hot acrid taste. It yields little of its virtues by infusion to aqueous liquors: rectified spirit extracts the whole of its taste and smell, but elevates nothing in distillation.

SATYRION [*Ed.*] *Radix.*
Orchis mascula Lin.

Orchis; the root.

This plant is frequent in shady places and moist meadows: each plant has two oval roots, of a whitish colour, a viscid sweetish taste, and a faint unpleasant smell. They abound with a glutinous slimy juice. With regard to their virtues, like other mucilaginous vegetables, they thicken the serous humours, and defend the solids from their acrimony: they have also been celebrated, tho' on no very good foundation, for analeptic and aphrodisiac virtues; and frequently used with these intentions. Salep, a celebrated restorative among the Turks, is probably the prepared root of certain plants of the orchis kind. This drug, as sometimes brought to us, is in oval pieces, of a yellowish white colour, somewhat clear and pellucid, very hard, and almost horny, of little or no smell, and tasting like gum tragacanth. Satyrion root, boiled in water, freed from the skin, and afterwards suspended in the air to dry, has exactly the same appearance: the roots thus prepared, dissolve in boiling water into a mucilage.

Geoffroy,

Geoffroy, who first communicated this preparation of orchis, recommends it in consumptions, in bilious dysenteries, and diforders of the breast, proceeding from an acrimony of the juices.

SCABIOSA [*Brun.*] *Herba.*
Scabiosa arvensis Lin.
Scabious; the herb.

This is a rough hairy plant, growing wild in pasture-grounds; of a nauseous bitterish taste. It stands recommended as an aperient, sudorific, and expectorant; but the present practice has little dependance on it.

SCAMMONIUM [*Lond. Ed.*] *Gummi-resina.*
Convolvulus scammonia Lin.
Scammony; the gum-resin.

Scammony is a concrete juice, extracted from the roots of a large climbing plant growing in the Asiatic Turkey. The best comes from Aleppo, in light spongy masses, easily friable, of a shining ash colour verging to black; when powdered, of a light grey or whitish colour. An inferior sort is brought from Smyrna in more compact ponderous pieces, of a darker colour, and full of sand and other impurities. This juice is chiefly of the resinous kind: rectified spirit dissolves five ounces out of six; the remainder is a mucilaginous substance mixed with dross: proof spirit totally dissolves it, the impurities only being left. It has a faint unpleasant smell, and a bitterish, somewhat acrimonious, taste.

Scammony is an efficacious and strong purgative. Some have condemned it as unsafe, and laid sundry ill qualities to its charge; the principal of which is, that its operation is uncertain, a full dose proving sometimes ineffectual, while at others a much smaller one occasions dangerous hypercatharsis. This difference, however, is owing entirely to the different circumstances of the patient, and not to any ill quality, or irregularity of operation, of the medicine: where the intestines are lined with an excessive load of mucus, the scammony passes through them without exerting itself; where the natural mucus is deficient, a small dose of this or any other resinous cathartic, irritates and inflames. Many have endeavoured to abate the force of this drug, and correct its imaginary virulence, by exposing it to the fume of sulphur, dissolving it in acid juices, and the like: but this could do no more than destroy as it were a part of the medicine, without making any alteration in the rest. Scammony in substance, judiciously managed, stands not in need of any corrector: if triturated with sugar or with almonds, as we have formerly recommended for other resinous purgatives, it becomes sufficiently safe and mild in its operation. It may likewise be conveniently dissolved, by trituration, in a strong decoction of liquorice, and then poured off from the feces: the college of Wirtemberg assure us, that by this treatment it becomes mildly purgative, without being attended with gripes, or other inconveniences; and that it likewise proves inoffensive to the palate. The common dose of scammony is from three to twelve grains.

Scammony gives name to three different compound powders, viz. the pulvis e scammonia compositus, pulvis e scammonio cum aloe, and pulvis e scammonio cum calomelane, and is an ingredient in the compound powder of senna, the compound extract of colocynth, and the pills of colocynth and aloes.

SCILLA

SCILLA [*Lond. Ed.*] *Radix.*
Scilla maritima Lin.
Squil, or ſea onion; the root.

This is a ſort of onion, growing ſpontaneouſly on dry ſandy ſhores in Spain and the Levant, from whence the root is annually brought into Europe. It ſhould be choſen plump, ſound, freſh, and full of a clammy juice: ſome have preferred the red ſort, others the white, tho' neither deſerves the preference to the other; the only difference perceivable between them is that of the colour; and hence both may be uſed promiſcuouſly. This root is to the taſte very nauſeous, intenſely bitter and acrimonious: much handled, it ulcerates the ſkin. With regard to its medical virtues, it powerfully ſtimulates the ſolids, and attenuates viſcid juices; and by theſe qualities promotes expectoration, urine, and if the patient be kept warm, ſweat: if the doſe be conſiderable, it proves emetic, and ſometimes purgative. The principal uſe of this medicine is where the primæ viæ abound with mucous matter, and the lungs are oppreſſed by tenacious phlegm. Dr Wagner, in his clinical obſervations, recommends it given along with nitre, in hydropical ſwellings, and in the nephritis; and mentions ſeveral cures which he performed, by giving from four to ten grains of the powder for a doſe, mixed with a double quantity of nitre: he ſays, that thus managed, it almoſt always operates as a diuretic, though ſometimes it vomits or purges. In dropſy, dried ſquills are often combined with mercury. The moſt commodious form for the taking of ſquills, unleſs when deſigned as an emetic, is that of a bolus, or pill: liquid forms are to moſt people too offenſive, though theſe may be rendered leſs diſagreeable both to the palate and ſtomach by the addition of aromatic diſtilled waters. This root yields the whole of its virtues, both to aqueous and vinous menſtrua, and to vegetable acids. Its officinal preparations are, a conſerve, dried ſquills, a ſyrup, vinegar, an oxymel, and pills.

SCOLOPENDRIUM. Vide LINGUA CERVINA.

SCORDIUM [*Lond. Ed.*] *Herba.*
Teucrium ſcordium Lin.
Water-germander; the herb.

This is a ſmall, ſomewhat hairy plant, growing wild in ſome parts of England, though not very common; the ſhops are generally ſupplied from gardens. It has a bitter taſte, and a ſtrong diſagreeable ſmell. Scordium is of no great eſteem in the preſent practice, notwithſtanding the deobſtruent, diuretic, and ſudorific virtues for which it was once celebrated. It formerly entered the mithridate, theriaca, and cataplaſm of cummin ſeed, and gave name to two compound powders and an electuary; but it could by no means be conſidered as an article of great activity; and from ſuch of theſe formulæ as are ſtill retained, the ſcordium is rejected.

SCORZONERA [*Suec.*] *Radix.*
Scorzonera hiſpanica Lin.
Viper's graſs; the root.

Scorzonera is met with only in gardens. The roots abound with a milky juice, of a bitteriſh ſubacrid taſte; and hence may be of ſome ſervice for ſtrengthening the tone of the viſcera, and promoting the fluid ſecretions. They were formerly celebrated as alexipharmacs, and for throwing out the meaſles and ſmall-pox; but have now almoſt entirely loſt their character.

SCRO-

SCROPHULARIA [*Brun.*] *Folium, radix.*

Scrophularia nodosa Lin.

Fig-wort; the leaf and root.

This herb grows wild in woods and hedges: the roots are of a white colour, full of little knobs or protuberances on the surface: this appearance gained it formerly some repute against scrophulous disorders and the piles; and from hence it receives its name: but modern practitioners expect no such virtues from it. It has a faint unpleasant smell, and a somewhat bitter disagreeable taste.

SEBESTENA [*Brun.*] *Fructus.*

Cordia myxa Lin.

Sebestens.

These are a sort of plum, the produce of a tree growing in the East Indies. The fruit is brought from thence in a dry state; it is of a dark or blackish brown colour, with whitish or ash-coloured cups: the flesh sticks close to the stone, which contains sometimes one and sometimes two kernels. This fruit has a sweet, very glutinous taste: and hence has been employed for softening acrimonious humours, in some kinds of hoarseness, and in coughs from thin sharp defluxions: at present it is not often met with in the shops.

SEDUM ACRE [*Suec.*] *Herba recens.*

Sedum acre Lin.

Wall-stone crop, or pepper; the recent plant.

This species of the sedum is a small, perennial, succulent, evergreen plant, growing in great abundance on the tops of walls and roofs of houses. It has a faint smell, and at first an herbaceous taste; but it afterwards shews considerable acrimony, exciting a sense of biting heat in the mouth and fauces. In its recent state it shews very active powers, proving emetic, purgative, and diuretic. The expressed juice taken to the quantity of a table spoonful, has been said to prove a very drastic medicine: but the plant in its dried state shews little or no activity. In this country it is hardly employed, and has no place in our pharmacopœias. Its activity, however, points it out as a subject deserving attention.

SENEKA [*Lond. Ed.*] *Radix.*

Polygala Senega Lin.

Seneka, or rattle-snake root.

Seneka grows spontaneously in Virginia, and bears the winters of our climate. This root is usually about the thickness of the little finger, variously bent and contorted, and appears as if composed of joints, whence it is supposed to resemble the tail of the animal whose name it bears: a kind of membranous margin runs on each side, the whole length of the root. Its taste is at first acid, afterwards very hot and pungent.

The Senegaro Indians are said to prevent the fatal effects which follow from the bite of the rattle-snake, by giving it internally, and by applying it externally to the wound. It has been strongly recommended in pleurisies, peripneumonies, and other inflammatory distempers. Its more immediate effects are those of a diuretic, diaphoretic, and cathartic; sometimes it proves emetic: the two last operations may be occasionally prevented, by giving the root in small doses, along with aromatic simple waters, as that of cinnamon. The usual dose of the powder is thirty grains or more.

Some have likewise employed this root in hydropic cases, and not without success. There are examples of its occasioning a plentiful evacu-

ation by ſtool, urine, and perſpiration; and by this means removing the diſeaſe, after the common diuretics and hydragogues had failed: where this medicine operates as a cathartic, it generally proves ſucceſsful: if it acts by liquefying the blood and juices, without occaſioning a due diſcharge, it ſhould either be abſtained from, or aſſiſted by proper additions.

SENNA [*Lond. Ed.*] *Folium.*
Caſſia ſenna Lin.
Senna; the leaf.

This is a ſhrubby plant cultivated in Perſia, Syria, and Arabia; from whence the leaves are brought, dried and picked from the ſtalks, to Alexandria in Egypt; and thence imported into Europe. They are of an oblong figure, ſharp pointed at the ends, about a quarter of an inch broad, and not a full inch in length, of a lively yellowiſh green colour, a faint not very diſagreeable ſmell, and a ſubacrid, bitteriſh, naufeous taſte. Some worſe ſorts are brought from Tripoli and other places; theſe may eaſily be diſtinguiſhed by their being either narrower, longer, and ſharper pointed; or larger, broader, and round pointed, with ſmall prominent veins; or large and obtuſe, of a freſh green colour, without any yellow caſt.

Senna is a very uſeful cathartic, operating mildly, and yet effectually: and, if judiciouſly doſed and managed, rarely occaſioning the ill conſequences which too frequently follow the exhibition of the ſtronger purges. The only inconveniencies complained of in this drug are, its being apt to gripe, and its naufeous flavour. The griping quality depends upon a reſinous ſubſtance, which, like the other bodies of this claſs, is naturally diſpoſed to adhere to the coats of the inteſtines. The more this reſin is divided by ſuch matters as take off its tenacity, the leſs adhefive, and conſequently the leſs irritating and griping it will prove; and the leſs it is divided, the more griping: hence ſenna given by itſelf, or infuſions made in a very ſmall quantity of fluid, gripe ſeverely, and purge leſs than when diluted by a large portion of ſuitable menſtruum, or divided by mixing the infuſion with oily emulſions. The ill flavour of this drug is ſaid to be abated by the greater waterfigwort: but we cannot conceive that this plant, whoſe ſmell is manifeſtly fetid and its taſte naufeous and bitter, can at all improve thoſe of ſenna: others recommend bohea tea, though neither has this any conſiderable effect. The ſmell of ſenna reſides in its more volatile parts, and may be diſcharged by lightly boiling infuſions of it made in water: the liquor thus freed from the peculiar flavour of the ſenna, may be eaſily rendered grateful to the taſte, by the addition of any proper aromatic tincture or diſtilled water. The colleges, both of London and Edinburgh, have given ſeveral formulæ for the exhibition of this article, ſuch as thoſe of infuſion, powder, tincture, and electuary. The doſe of ſenna in ſubſtance, is from a ſcruple to a dram; in infuſion, from one to three or four drams.

It has been cuſtomary to reject the pedicles of the leaves of ſenna as of little or no uſe: Geoffroy however obſerves, that they are not much inferior in efficacy to the leaves themſelves. The pods or ſeed-veſſels met with among the ſenna brought to us, are by the college of Bruſſels preferred to the leaves: they are leſs apt to gripe, but proportionally leſs purgative.

SERPENTARIA VIRGINIANA [*Lond. Ed.*] *Radix.*
Ariſtolochia ſerpentaria Lin.

Vir-

Virginian ſnake-root; the root.

This is a ſmall, light, buſhy root, conſiſting of a number of ſtrings or fibres, matted together, iſſuing from one common head; of a browniſh colour on the outſide, and paler or yelloviſh within. It has an aromatic ſmell, like that of valerian, but more agreeable: and a warm, bitteriſh, pungent taſte. This root is a warm diaphoretic and diuretic: it has been much celebrated as an alexipharmac, and eſteemed one of the principal remedies in malignant fevers and epidemic diſeaſes. Some recommend it in cutaneous affections. It is given in ſubſtance in doſes of from ten to thirty grains, and in infuſion to a dram or two. Both watery and ſpirituous menſtrua extract its virtue by infuſion, and elevate its flavour in diſtillation: along with the water a ſmall portion of eſſential oil ariſes. A ſpirituous tincture is directed as an officinal preparation.

SERPYLLUM [*Ed.*] *Summitatis florentes.*
Thymus ſerpyllum Lin.

Mother of thyme; the flowering tops.

This is a ſmall creeping plant, common on heaths and dry paſture grounds. Its taſte, ſmell, and medical virtues are ſimilar to thoſe of thyme, but weaker.

SIMAROUBA [*Lond. Ed.*] *Cortex.*
Quaſſia ſumarouba Lin.

Simarouba; the bark.

This bark, with pieces of the wood adhering to it, is brought from Guiana in South America, in long tough pieces of a pale yelloviſh colour, and a pretty ſtrong bitter taſte. Some eſteem it in dyſenteric fluxes: a decoction of half a dram is given for a doſe, and repeated at intervals of three or four hours.

It has alſo been uſed with advantage in ſome other inſtances of increaſed diſcharges, particularly in leucorrhœa. From its ſenſible qualities it may be concluded to be a gentle aſtringent.

SINAPI [*Lond. Ed.*] *Semen.*
Sinapis nigra Lin. [*Lond.*]
Sinapis alba Lin. [*Ed.*]

Muſtard ſeed, black and white.

Theſe ſeeds obtained from different ſpecies of the muſtard, differ very little from each other, excepting that the black is rather more pungent than the white.

This plant is ſometimes found wild, but for culinary and medicinal uſes is cultivated in gardens. Muſtard, by its acrimony and pungency, ſtimulates the ſolids, and attenuates viſcid juices; and hence ſtands deſervedly recommended for exciting appetite, promoting digeſtion, increaſing the fluid ſecretions, alſo in paralytic and rheumatic affections, and for the other purpoſes of the acrid plants called *antiſcorbutic*. Some recommend it in the diſeaſe called *milreek*, to which ſmelters are ſubject. It imparts its taſte and ſmell in perfection to aqueous liquors, while rectified ſpirit extracts extremely little of either: the whole of the pungency ariſes with water in diſtillation. Committed to the preſs, it yields a conſiderable quantity of a ſoft inſipid oil, perfectly void of acrimony: the cake left after the expreſſion is more pungent than the muſtard was at firſt. The oil is directed as officinal by the London college. Theſe ſeeds are ſometimes employed externally as a ſtimulant in ſinapiſms.

SIUM [*Lond.*] *Herba.*
Sium nodiflorum Lin.

Creeping ſkerrit, or water parſnip; the herb.

The London pharmacopœia is

the only moderen one in which this article has at preſent a place. And it has probably been introduced from ſome obſervations of late date with which we are unacquainted. It is an indigenous vegetable in Britain, growing abundantly in rivers and ditches. It was formerly alleged to be not only a diuretic, but alſo an emmenagogue and lithontriptic. With theſe intentions, however, it is not now employed. Dr Withering mentions, that a young lady of ſix years old was cured of an obſtinate cutaneous diſeaſe by taking three large ſpoonfuls of the juice twice a-day; and he adds, that he has given repeatedly to adults three or four ounces every morning, in ſimilar complaints. In ſuch doſes it neither affects the head, ſtomach, nor bowels. And children take it readily when mixed with milk.

SOLANUM LETHALE, vide BELLADONNA.

SPERMA CETI DICTUM [*Lond. Ed.*]

Phyſiter macrocephalus Lin.

Spermaceti.

It is perhaps ſurpriſing, that while the London and Edinburgh colleges, have with a great propriety changed many of the old names of articles, particularly thoſe which had a tendency to miſlead, they ſhould ſtill have retained one ſo abſurd as that which is affixed to the preſent article. What is denominated ſpermaceti is a peculiar animal fat obtained from the head of a particular ſpecies of whale. In the ſtate to which it is brought, before it enters the ſhops of our apothecaries, it is an unctuous flaky ſubſtance, of a ſnowy whiteneſs, a ſoft butyraceous taſte, and without any remarkable ſmell. The virtues of this concrete are thoſe of a mild emollient: it is of conſiderable uſe in pains and eroſions of the inteſtines, in coughs proceeding from thin ſharp defluctions, and in general in all caſes where the ſolids require to be relaxed, or acrimonious humours to be ſoftened. For external purpoſes, it readily diſſolves in oils; and for internal ones, may be united with aqueous liquors into the form of an emulſion, by the mediation of almonds, gums, or the yolk of an egg. Sugar does not render it perfectly miſcible with water; and alkalies, which change other oils and fats into ſoap, have little effect upon ſpermaceti. This drug ought to be kept very cloſely from the air; otherwiſe its white colour ſoon changes into a yellow, and its mild unctuous taſte, into a rancid and offenſive one. After it has ſuffered this diſagreeable alteration, both the colour and quality may be recovered again by ſteeping it in alkaline liquors, or in a ſufficient quantity of ſpirit of wine.

SPIGELIA [*Lond. Ed.*] *Radix, Spigelia Marilandica Lin.*

Indian pink; the root.

This plant grows wild in the ſouthern parts of North America. The roots are celebrated as an anthelmintic, particularly for the expulſion of lumbrici from the alimentary canal. Some order it in doſes of ten or fifteen grains; and allege that it occaſions nervous affections if given in larger doſes; while others order it in dram doſes, alleging that the bad effects mentioned more readily happen from ſmall doſes, as the large ones often purge or puke; ſome prefer the form of infuſion. An emetic is generally premiſed; and its purgative effect aſſiſted by ſome ſuitable additions.

SPINA CERVINA [*Lond. Ed.*] *Bacca.*

Rhamnus catharticus Lin.

Buck-thorn; the berries.

This

This tree, or bush, is common in hedges: it flowers in June, and ripens its fruit in September or the beginning of October. In our markets, the fruit of some other trees, as the black berry-bearing alder, and the dog-berry-tree, have of late often been mixed with or substituted for those of buckthorn. This abuse may be discovered by opening the berries, those of buckthorn have generally four seeds, the berries of the alder two, and those of the dog-berry only one. Buckthorn berries, bruised on white paper, give it a green tincture, which the others do not, Those who sell the juice to the apothecaries, are said to mix with it a large proportion of water.

Buckthorn berries have a faint disagreeable smell, and a nauseous bitter taste. They have long been in considerable esteem as cathartics; and celebrated in dropsies, rheumatisms, and even in the gout; though in these cases they have no advantage above other purgatives, and are more offensive, and operate more severely, than many which the shops are furnished with: they generally occasion gripes, sickness, dry the mouth and throat, and leave a thirst of long duration. The dose is about twenty of the fresh berries in substance, and twice or thrice this number in decoction, an ounce of the expressed juice, or a dram of the dried berries. A syrup prepared from the juice is kept in the shops; in this preparation the nauseous flavour of the buckthorn is somewhat corrected by the sugar, and the addition of aromatics.

SPIRITUS CORNU CERVI; *Hoc est, Salis alkalini volatilis ex ossibus vel cornibus animalium parati, portio volatilior liquida bene rectificata ut decolor fit:* [*Ed*]

Spirit of hartshorn.

This is the more volatile liquid part of the volatile alkaline salt, obtained from the bones and horns of animals, well rectified so as to become colourless.

The volatile alkali, as got by distillation with a strong fire from any animal matter, from soot, &c. is, when pure, one and the same thing.

Of the mode of obtaining it we shall afterwards have occasion to speak, under the head of preparations, when we come to mention the liquor volatilis, sal et oleum cornu cervi, which, although they derive their name from hartshorn, may yet be obtained from any animal substance, excepting fat.

As first distilled, however, from the subject, this liquor is impregnated with its oil, rendered fetid or empyreumatic by the process. The oily volatile alkali has been chiefly prepared by distillation in large iron pots, with a fire increased by degrees to a strong red heat: a watery liquor rises first, then the volatile salt, along with a yellowish, and at length a dark reddish oil; a part of the salt dissolves in the water and forms the spirit, which is considerably separated from the oil by filtration through wet paper. It is rectified by repeated distillations with a very gentle heat. Greatest part of the salt always comes over before the water; a little of the salt is generally allowed to remain undissolved as a test of the strength of the spirit. However colourless the salt or spirit of hartshorn, soot, or such like, may be thus rendered; yet by keeping they become yellow and nauseous, owing to the quantity of oil which they still retain. The Edinburgh college order this article to be got from the manufacturer, rather than prepared by the apothecary himself, who cannot do it to any advantage.

The volatile alkali is got in its purest state from sal ammoniac. It is

uſed externally, held to the noſe, on account of its pungent odour, in caſes of faintneſs and ſyncope; and mixed with unctuous matter as a rubefacient. It is uſed internally to obviate ſpaſm in hyſteria, torpor in hypochondriaſis, and with a view to excite the vis vitæ.

It has alſo been ſaid, that in ſome inſtances intermittents have been ſucceſsfully cured by it, even after the Peruvian bark had failed. With this view, fifteen drops of the ſpirit are given in a tea cupful of cold ſpring water, and repeated five or ſix times in each intermiſſion.

SPIRITUS VINOSUS RECTIFICATUS [*Lond. Ed.*] *Continet alkaholis partes 95 et aquæ diſtillatæ partes 5 in partibus* 100; *hujus pondus ſpecificum eſt ad pondus aquæ diſtillatæ ut* 930 *ad* 1000.

Rectified ſpirit of wine. It contains 95 parts of alcohol and 5 parts of diſtilled water in 100. Its ſpecific gravity is to that of diſtilled water as 835 to 1000.

According to the Edinburgh college, the pound meaſure of rectified ſpirit ought to weigh thirteen ounces; and it ſhould be a colourleſs fluid free from any diſagreeable ſmell.

This purification is effected by repeating the diſtillation in a very gentle heat, with certain additions to keep down the phlegm and the groſs oil, in which the ill flavour reſides. Theſe ſpirits, whatever vegetable ſubjects they have been produced from, are, when perfectly pure, one and the ſame. They have a hot pungent taſte, without any particular flavour; they readily catch flame, and burn entirely away, without leaving any marks of an aqueous moiſture behind: diſtilled by a heat leſs than that of boiling water, they totally ariſe, the laſt runnings proving as flavourleſs and inflammable as the firſt: they diſſolve eſſential vegetable oils and reſins into an uniform tranſparent fluid. Theſe ſpirits are the lighteſt of almoſt all known liquors: expreſſed oils, which ſwim upon water, ſink in theſe to the bottom: a meaſure which contains ten ounces by weight of water, will hold little more than eight and a quarter of pure ſpirit.

The uſes of vinous ſpirits, as menſtrua for the virtues of other medicines, will be mentioned hereafter, and in this place we ſhall conſider only their own. Pure ſpirit coagulates all the fluids of animal bodies, except urine, and it alſo hardens the ſolid parts. Applied externally, it ſtrengthens the veſſels, and thus may reſtrain paſſive hemorrhagies. It inſtantly contracts the extremities of the nerves it touches, and deprives them of ſenſe and motion; by this means eaſing them of pain, but at the ſame time deſtroying their uſe. Hence employing ſpirituous liquors in fomentations, notwithſtanding the ſpecious titles of vivifying, heating, reſtoring mobility, reſolving, diſſipating, and the like, uſually attributed to them, may ſometimes be attended with unhappy conſequences. Theſe liquors received undiluted into the ſtomach, produce the ſame effects, contracting all the ſolid parts which they touch, and deſtroying, at leaſt for a time, their uſe and office: if the quantity be conſiderable, a palſy or apoplexy follows, which ends in death. Taken in ſmall quantity, and duly diluted, they brace up the fibres, raiſe the ſpirits, and promote agility: if farther continued, the ſenſes are diſordered, voluntary motion deſtroyed, and at length the ſame inconveniences brought on as before. Vinous ſpirits, therefore in ſmall doſes, and properly diluted, may be applied to uſeful purpoſes in the cure of diſeaſes, while in larger ones they act as a poiſon of a particular kind.

And

And they generally prove deleterious from long continued use to such a degree as frequently to intoxicate.

SPIRITUS VINOSUS TENUIOR [*Lond. Ed.*] *Continet alkoholis partes* 55, *et aquæ distillatæ partes* 45 *in partibus* 100. *Hujus pondus specificum est ad pondus aquæ distillatæ ut* 930 *ad* 1000

Proof spirit of wine. It contains 55 parts of alkohol and 45 of distilled water in 100. Its specific gravity is to that of distilled water as 930 to 1000.

The Edinburgh college direct proof spirit to be made by mixing equal parts of water and rectified spirit; but the spirits usually met with under the name of *proof*, are those distilled from different fermented liquors, freed from their phlegm and ill-flavour only to a certain degree. Their purity, with regard to flavour, may be easily determined from the taste, especially if the spirit be first diluted. It were to be wished that we had a certain standard with regard to their strength or the quantity of water contained in them; a circumstance which greatly influences sundry medicinal preparations, particularly the tinctures: for as pure spirit dissolves the resin and volatile oil, and water only the gummy and saline parts of vegetables, it is evident that a variation in the proportions wherein these are mixed, will vary the dissolving power of the menstruum, and consequently the virtue of the preparation; and from this circumstance, apothecaries would do better by preparing it from rectified spirit themselves, than by purchasing it from dealers.

SPONGIA [*Lond.*]
Spongia officinalis Lin.
Sponge.

Sponge is a soft, light, very porous and compressible substance, readily imbibing water, and distending thereby. It is found adhering to rocks, particularly in the Mediterranean sea, about the islands of the Archipelago. It is generally supposed to be a vegetable production: nevertheless some observations, made by Jussieu, give room to suspect that it is of animal origin. Chemical experiments favour this supposition: analysed, it yields the same principles with animal substances in general: volatile salt is obtained from it in larger quantity than from almost any animal matter, except the bags of the silk worm. On this salt seem to depend the virtues of the officinal *spongia usta*, which has by some been strongly recommended in scrophulous affections; but which has been particularly celebrated for removing that large swelling of the neck, which is termed *bronchocele*, and which is probably of a scrophulous nature.

Crude sponge, from its property of imbibing and distending by moisture, is sometimes used as a tent for diluting wounds and ulcers.

To fit it for these intentions the sponge is immersed in melted wax, and subjected to pressure till cool: In this state it may be easily formed into proper tents, so as to be introduced where necessary. And from the gradual melting of the wax in consequence of the heat of the part, a dilatation of course takes place.

It adheres strongly to the mouths of wounded vessels; and when retained by proper compression, it has prevented considerable bleedings preferably to agaric, or puff-ball.

STANNUM [*Lond.*]
STANNI LIMATURA ET PULVIS [*Ed.*]

The filings and powder of tin.

Tin is the lightest and most fusible of all metals. Heated, it becomes so brittle as to fall in pieces by a blow; and by agitation (when just ready to melt) it is formed into a powder:

der: hence the officinal method of pulverising this metal, to be described in its place. The proper menstruum of tin is the marine acid, or aqua regia. Vegetable acids likewise dissolve it in considerable quantity, tho' it has long been supposed not to be at all soluble in them, unless previously well calcined.

With regard to the virtues of this metal it was formerly accounted a specific in disorders of the uterus and lungs; a calx of tin and antimony is still retained in some dispensatories, under the name of an *antihectic*: but these are virtues to which it certainly has little claim. It has of late been celebrated as an anthelmintic; and said to destroy some kinds of worms which elude the force of other medicines, particularly the tænia: possibly the cause of this effect may be very different from what is suspected, an admixture of a portion of arsenic.

Tin has a strong affinity with arsenic; insomuch, that when once united therewith, the arsenic, notwithstanding its volatility in other circumstances, cannot be totally expelled, either by slow calcination or by a vehement fire. Almost all the ores of tin contain more or less of this poisonous mineral, which is not entirely separable in the common processes by which the ores are run down, or the metal farther purified. Filings of tin held in the flame of a candle, emit a thick fume, smelling of garlic; which smell is universally held in mineral substances to be a criterion of arsenic. Mr Henckel has discovered a method of separating actual arsenic from tin: this is effected by solution in aqua-regia and crystallisation. Mr Margraff has given a farther account of this process; and relates, that from the tins usually reputed pure, he has obtained one-eighth of their weight of crystals of arsenic.

But notwithstanding these observations, it is certain, that tin under the form of stannum pulveratum, afterwards to be mentioned, is every day taken internally with perfect impunity; even in doses so large as to the extent of an ounce, although unless in cases of tænia, it is in general employed in much smaller doses.

STAPHISAGRIA [*Lond.*] *Semen.*

Delphinium staphisagria Lin.

Staves acre; the seeds.

These are large rough seeds, of an irregularly triangular figure, of a blackish colour on the outside, and yellowish or whitish within: they are usually brought from Italy; the plant is not very common in this country, though it bears our severest colds. They have a disagreeable smell, and a very nauseous, bitterish, burning taste. Staves acre was employed by the antients as a cathartic; but it operates with so much violence both upwards and downwards, that its internal use has been, among the generality of practitioners, for some time laid aside. It is chiefly employed in external applications for some kinds of cutaneous eruptions, and for destroying lice and other insects; insomuch, that from this virtue it has received its name, in different languages; *herba pedicularis, herbe aux poux, lausskraut, lousewort, &c.*

STIBIUM, vide ANTIMONIUM.

STŒCHAS, [*Brun.*] *Flos.*

Lavendula stœchas Lin.

Arabian stechas, or French lavender-flowers.

This is a shrubby plant, considerably smaller than the common lavender. The flowery heads are brought from Italy and the southern parts of France:

France: they are very apt to grow mouldy in the paſſage; and even when they eſcape this inconvenience, are generally much inferior to thoſe raiſed in our gardens. The beſt ſtechas which we receive from abroad, has no great ſmell or taſte: Pomet affirms, that ſuch as the ſhops of Paris are ſupplied with is entirely deſtitute of both; while that of our own growth, either when freſh or when carefully dried, has a very fragrant ſmell, and a warm, aromatic, bitteriſh, ſubacrid taſte; diſtilled with water, it yields a conſiderable quantity of a fragrant eſſential oil; to rectified ſpirit it imparts a ſtrong tincture, which inſpiſſated proves an elegant aromatic extract. This aromatic plant is rarely met with in preſcription; the only officinal compoſitions into which it was admitted, were the mithridate and theriaca.

There is another ſort called *ſtechas*, which from the beauty and durability of its flowers has of late years had a place in our gardens, and whoſe aromatic qualities render it worthy of attention; this is the *gnaphalium arenarium Lin.* the golden ſtechas, goldilocks, or yellow caſſidony; its flowers ſtand in umbels on the tops of the branches; they are of a deep ſhining yellow colour, which they retain in perfection for many years; their ſmell is fragrant and agreeable, ſomewhat of the muſky kind; their taſte warm, pungent, and ſubaſtringent: they impart their flavour to water in diſtillation, and by infuſion to rectified ſpirit.

STRAMONIUM [*Ed.*] *Herba.*

Datura ſtramonium Lin.

Thorn apple; the herb.

The ſtramonium is one of thoſe vegetables commonly conſidered as a ſtrong narcotic poiſon, which was highly recommended to the attention of practitioners by Dr Stoerk of Vienna. It grows indigenous in ſome parts of Britain, among rubbiſh and on dunghills. It has been uſed internally, under the form of an extract or inſpiſſated juice from the leaves. This extract has been chiefly employed in maniacal caſes; and when given in doſes from one to ten grains or upwards in the courſe of the day, it has been alleged to be attended with ſurpriſing effects, on the authority not only of Dr Stoerk, but of Dr Odhelius, Dr Wedenberg, and others. Dr Odhelius in particular informs us, that of fourteen patients to whom he gave it, eight were completely cured, five were relieved, and one only received no benefit. We have not, however, heard of its being equally ſucceſsful in Britain; and it is here ſo little employed as to have ſtill no place in the pharmacopœia of the London college. But we cannot help thinking, that it deſerves the attention of practitioners, and well merits a trial, in affections often incurable by other means. The powder of the leaves or ſeeds promiſes to furniſh a more certain or convenient formula than the inſpiſſated juice. Beſides maniacal caſes, the ſtramonium has been alſo employed, and ſometimes with advantage, in convulſive and epileptic affections. It is not only taken internally, but has alſo been uſed externally. An ointment prepared from the leaves of the ſtramonium has been ſaid to give eaſe in external inflammations and in hæmorrhoids.

STYRAX CALAMITA [*Lon. Ed.*] *Reſina.*

Styrax officinalis Lin.

Storax.

This is an odoriferous reſinous ſubſtance, exuding from a tree growing in the warmer climates.

It has been cuſtomary to diſtinguiſh three ſorts of ſtorax, though only one is uſually met with in the ſhops.

1. *Styrax calamita*, or *ſtorax in the cane*, ſo called from its having been formerly brought incloſed in reeds from Pamphylia. It is either in ſmall diſtinct tears, of a whitiſh or reddiſh colour, or in large maſſes compoſed of ſuch.

2. *Storax in the lump*, or *red ſtorax*. This is in maſſes of an uniform texture and yellowiſh red or browniſh colour; though ſometimes likewiſe interſperſed with a few whitiſh grains. Of this ſort there has been ſome to be lately met with in the ſhops under the name of *ſtorax in the tear*.

3. The *common ſtorax* of the ſhops is in large maſſes, conſiderably lighter and leſs compact than the foregoing: it appears upon examination to be compoſed of a fine reſinous juice, mixed with a quantity of ſaw-duſt. For what purpoſe this addition is made, is difficult to ſay, but it can ſcarcely be ſuppoſed to be done with any fraudulent view, ſince the ſaw-duſt appears at ſight. This common ſtorax is much leſs eſteemed than the two firſt ſorts; though, when freed from the woody matter, it proves ſuperior in point of fragrance to either of them. Rectified ſpirit, the common menſtruum of reſins, diſſolves the ſtorax, leaving the wood behind; nor does this tincture loſe conſiderably of its valuable parts, in being inſpiſſated to a ſolid conſiſtence; while aqueous liquors elevate almoſt all the fragrancy of the ſtorax.

Storax is one of the moſt agreeable of the odoriferous reſins, and may be exhibited to great advantage in languors and debilities of the nervous ſyſtem; it is not, however, much uſed in common practice.

STYRAX LIQUIDA [*Dan.*]
Liquidambar ſtyraciflua Lin.
Liquid ſtorax.

The genuine liquid ſtorax, according to Petiver's account, is obtained from a tree growing in the iſland Cobros in the Red Sea: the preparers of this commodity yearly clear off the bark of the tree, and boil it in ſea-water to the conſiſtence of bird lime; the reſinous matter which floats on the ſurface is taken off, liquified in boiling water, and paſſed through a ſtrainer. The purer part which paſſes through, and the more impure which remains on the ſtrainer, and contains a conſiderable portion of the ſubſtance of the bark, are both ſent to Mocca; from whence they are ſometimes, though very rarely, brought to us. The firſt is of the conſiſtence of honey, tenaceous, of a reddiſh or aſh brown colour, an acrid unctuous taſte, approaching in ſmell to the ſolid ſtorax, but ſo ſtrong as to be diſagreeable: the other is full of woody matter, and much weaker in ſmell.

The genuine liquid ſtorax is even at Mocca both a rare commodity and ſold at a very high price, and it has ſeldom entered the ſhops of our apothecaries. A reſinous juice, poſſeſſing ſomewhat of the ſame ſenſible qualities, brought from the Spaniſh provinces in South America, and perhaps the product of the ſame tree, is ſometimes ſold in place of it: But much more frequently what we meet with under this name is an artificial compound of ſolid ſtorax, common reſin, wine, and oil, beat up together to a proper conſiſtence. Concerning the real virtues of liquid ſtorax, obſervations are altogether wanting: hence the London and Edinburgh colleges have expunged it from the catalogue of officinals.

SUC-

SUCCINUM [*Lond. Ed.*]

Amber.

This is a ſolid, brittle, bituminous ſubſtance, dug out of the earth, or found upon the ſea-ſhores: the largeſt quantities are met with along the coaſts of Poliſh Pruſſia and Pomerania. It is of a white yellow, or brown colour, ſometimes opake, and ſometimes very clear and tranſparent. The dark-coloured and opake ſorts, by digeſtion with certain expreſſed oils and animal fats, become clearer, paler coloured, more pellucid, and conſiderably harder. Amber boiled in water, neither ſoftens nor undergoes any ſenſible alteration: expoſed to a greater heat, without addition, it melts into a black maſs like ſome of the more common bitumens: ſet on fire, its ſmell reſembles that which ariſes from the finer kinds of pitcoal: diſtilled in a retort, it yields an oil and a volatile acidulous ſalt.

Amber in ſubſtance has very little ſmell or taſte; and hence it has by ſome been reckoned a mere inactive earthy body. It was formerly accounted an abſorbent, and as ſuch had a place in the compound powder of crabs-claws: it certainly has no title to this claſs of medicines, as not being acted upon by any acid. It is ſuppoſed to be of ſervice in the fluor albus, gleets, hyſteric affections, &c.; and with theſe intentions is ſometimes given in the form of impalpable powder, to the quantity of a dram. A tincture of amber made in rectified ſpirit, to which it imparts a bitteriſh aromatic taſte and a fragrant ſmell, promiſes to be of ſervice in theſe diſorders. Boerhaave extols this tincture as having incredible efficacy in all thoſe diſtempers which proceed from weakneſs and relaxation, and in hypochondrical, hyſterical, and cold languid caſes. If part of the ſpirit be abſtracted by a gentle heat, the remainder proves a very elegant aromatic balſam, which is perhaps one of the moſt uſeful preparations obtainable from this concrete.

Amber in the ſtate of powder formerly entered ſeveral officinal compoſitions, from all which it is now rejected: but it is the baſis of an oil and ſalt to be afterwards mentioned among the preparations, which are ſometimes uſed in the ſtate in which they are at firſt obtained, but more frequently in a purified or rectified ſtate; preparations which are to be mentioned hereafter.

SULPHUR [*Lond.*]

Sulphuris flores [*Ed.*]

Sulphur, and flowers of ſulphur.

Sulphur, or brimſtone, is a yellow ſubſtance, of the mineral kingdom, fuſible in a ſmall degree of heat, totally volatile in a ſtronger, readily inflammable, burning with a blue flame, which is accompanied with a ſuffocating acid fume. It diſſolves in alkaline liquors and in oils; not in acids, water, or vinous ſpirits.

Greateſt part of the ſulphur met with in the ſhops, is obtained from certain ores by a kind of diſtillation, or artificially compoſed by uniting the vitriolic acid with inflammable matters. At ſome of the Saxon ſulphur-works, from whence we are chiefly ſupplied, certain minerals abounding with vitriolic acid, but containing little or no ſulphur, being ſtratified with wood, and the latter ſet on fire, a large quantity of fine ſulphur is produced. It is uſually brought to us in large irregular maſſes, which are afterwards melted and caſt into cylindrical rolls with the addition of ſome coarſe reſin, flower, or the like; whence the paler colour of the rolls. Sulphur is alſo not unfrequently found native in the earth, ſometimes in tranſparent pieces of a greeniſh or bright yellow colour; but more commonly

in opaque grey ones, with only ſome ſtreaks of yellow. This laſt is the ſort which is underſtood by the name *ſulphur vivum*; though that met with under this name in the ſhops, is no other than the droſs remaining after the ſublimation of ſulphur. All the ſorts of ſulphur are, when perfectly pure, in no reſpect different from each other. Notwithſtanding the preference given by ſome to the more uncommon foſſil ſorts, theſe laſt are the leaſt proper for medicinal purpoſes, as being the moſt ſubject to an admixture of foreign matter both of the metallic and arſenical kind.

Pure ſulphur looſens the belly, and promotes inſenſible perſpiration: it paſſes through the whole habit, and manifeſtly tranſpires thro' the pores of the ſkin, as appears from the ſulphureous ſmell of perſons who have taken it, and from ſilver being ſtained in their pockets of a blackiſh colour, which is the known effect of ſulphureous fumes. It is a celebrated remedy againſt cutaneous diſeaſes, both given internally and applied externally. It has likewiſe been recommended in coughs, aſthmas, and other diſorders of the breaſt and lungs; and particularly in catarrhs of the chronic kind. But it is probable, that the benefit derived from it in theſe caſes, is principally, if not entirely, to be attributed to its operation as a gentle laxative. And with this intention it is frequently uſed with great advantage in hæmorrhoidal affections, and many other diſeaſes in which it is proper to keep the belly gently open. Tho' ſulphur be not ſoluble in water, yet boiling water poured upon it, in a cloſe veſſel, obtains ſome impregnation. This water has by ſome been highly extolled as a very effectual remedy for preventing returns of gout and rheumatiſm.

The common doſe of ſulphur rarely exceeds a ſcruple, tho' Geoffroy goes as far as two drams.

Sulphur is the baſis of two formulæ in our pharmacopœias, troches and an ointment: the former intended for internal uſe, the latter to be employed externally.

It is remarkable of this concrete, that though a medicine of conſiderable efficacy, it nevertheleſs reſtrains that of ſome others of the moſt powerful kind. Mercury is rendered, by the admixture of ſulphur, inactive; and the virulent antimonial regulus almoſt ſo. Hence, when antimonial and mercurial medicines exceed in operation, ſulphur has been given for abating their violence: but it is now found that it has little effect in reſtraining their action; and it is probable, that the influence it has depends entirely on its operating as a gentle laxative. Even the corroſive poiſon arſenic, by the addition of ſulphur, becomes almoſt innocent; and hence, if a ſmall proportion of arſenic ſhould be contained in ſulphur, it poſſibly may not receive from thence any poiſonous qualities.

SUMACH [*Brun.*] *Folium, ſemen.*

Rhus coriaria Lin.

Common ſumach; the leaves and ſeeds.

This tree, or ſhrub, is cultivated in ſome places on account of the culinary uſes of its fruits, and for the purpoſes of the dyers, &c. among us, it is met with only in the gardens of the curious. The ſeeds or berries are of a red colour, in ſhape round and flat. Both theſe and the leaves are moderately aſtringent, and have ſometimes been exhibited with this intention, but are now become ſtrangers to the ſhops.

TA-

TACAMAHACA [*Brun.*]
Resina.
Populus balsamifera Lin.
Tacamahaca; the resin.

This resinous substance is obtained from a tall tree, which grows spontaneously on the continent of America, and in a sheltered situation bears the winters of our climate. Two sorts of this resin are sometimes to be met with. The best, called from its being collected in a kind of gourd-shells, *tacamahaca in shells*, is somewhat unctuous and softish, of a pale yellowish or greenish colour, an aromatic taste, and a fragrant delightful smell, approaching to that of lavender and ambergris. This sort is very rare: that commonly found in the shops is in semitransparent grains or glebes, of a whitish, yellowish, brownish, or greenish colour, of a less grateful smell than the foregoing. The first is said to exude from the fruit of the tree, the other from incisions made in the trunk. This resin is said to be employed among the Indians, externally, for discussing and maturating tumours, and abating pains and aches of the limbs. The fragrance of the finer sort sufficiently points out its being applicable to different purposes.

TAMARINDUS [*Lond. Ed.*]
Fructus.
Tamarindus indica Lin.
Tamarinds; the fruit.

Tamarinds are the fruit of a tree growing in the East and West Indies. It resembles a bean pod, including several hard seeds, together with a dark coloured viscid pulp of a pleasant acid taste: the East India tamarinds are longer than the West India sort; the former containing six or seven seeds each, the latter rarely above three or four. The pulp of these fruits, taken from the quantity of two or three drams to an ounce or more, proves gently laxative and purgative; and at the same time by its acidity, quenches thirst, and allays immoderate heat. It increases the action of the purgative sweets, cassia and manna, and weakens that of the resinous cathartics. Some have supposed it capable of abating the virulence of antimonial preparations; but experience shews that it has rather a contrary effect, and that all vegetable acids augment their power. Tamarinds are an ingredient in the electuary of cassia, the lenitive electuary, and decoction of tamarinds with senna.

TANACETUM [*Lond. Ed.*]
Flos, herba.
Tanacetum vulgare Lin.
Tansy; the flower and herb.

Tansy grows wild by road sides and the borders of fields, and is frequently also cultivated in gardens both for culinary and medicinal uses: it flowers in June and July. Considered as a medicine, it is a moderately warm bitter, accompanied with a strong, not very disagreeable flavour: some have had a great opinion of it in hysteric disorders, particularly those proceeding from a deficiency or suppression of the uterine purgations. The leaves and seeds have been of considerable esteem as anthelmintics; the seeds are less bitter, and more acrid and aromatic, than those of rue, to which they are reckoned similar; or of santonicum, for which they have been frequently substituted.

An infusion of tansy, drank in a manner similar to tea, has been by some strongly recommended as a preventive of the return of gout.

THAPSUS BARBATUS, vide VERBASCUM.

TA-

TARAXACUM [*Lond. Ed.*]
Radix, herba.

Leontodon taraxacum Lin.

Dandelion; the leaves and root.

This plant is very common in grafs fields and uncultivated places. The root, leaves, and ftalk, contain a large quantity of a bitter milky juice. There is reafon to believe that they poffefs very confiderable activity; and with that intention they have fometimes been employed with fuccefs. Boerhaave eſteems them capable, if duly continued, of opening very obſtinate obſtructions of the viſcera. A ſpirit obtained from them by diſtillation, after previous fermentation, has been ſtrongly recommended by Profeſſor Delius of Erlang, in every diſorder where ſaponaceous, attenuating, or reſolvent medicines, can be of uſe, particularly in aſthmatic diſorders, in coughs proceeding from glandular obſtructions, and in hydropic affections.

TARTARUM [*Ed.*]

Tartar is a ſaline ſubſtance, conſiſting of the vegetable alkali ſuperſaturated with acid. It is thrown off from wines to the ſides and bottom of the caſk: In this ſtate it is mixed with earthy, oily, and colouring matter; and when it has a deep brown colour, as that from red wine, it is commonly called *red*, and when of a paler colour *white tartar*. It is purified by diſſolving it in boiling water, and ſeparating the earthy part by filtring the boiling ſolution. On cooling the ſolution, it depoſites irregular cryſtals, containing the oily and colouring matters, which are ſeparated by boiling the maſs with a white clay. The tartar thus purified, when cryſtalliſed, or in powder, is called *cream of tartar*. If this be expoſed to a red heat, its acid flies off; and what remains is the vegetable alkali, or ſalt of tartar. If we add lime to a boiling ſolution of pure tartar, the lime falls down with the acid, and the pure alkali ſwims in the water above. The lime is ſeparated by any acid of a ſtronger attraction to it, as the vitriolic acid, which is added in a diluted ſtate, the whole ſtirred for ſome time, and ſtrained off; the acid of tartar paſſes through, and may be had by evaporation in the form of rhomboidal cryſtals. The ſolubility of tartar in water is much promoted by borax.

The virtues of tartar are thoſe of a mild, cooling, aperient, laxative medicine. It is much uſed in dropſy; and ſome allege that it has good effects as a deobſtruent, in dropſy from ſchirrus. Taken from half an ounce to an ounce, it proves a gentle, though effectual purgative: Angelus Sala relates, that he was cured of an habitual colic by purging himſelf a few times with ſix drams of the crude ſalt, after many other medicines had been tried to no purpoſe.

The cryſtals of tartar are in daily uſe, merely by themſelves, either taken in powder or diſſolved in water; and there are perhaps few medicines more commonly employed.

This ſalt is an ingredient in the compound infuſion of ſenna, compound powder of ſenna, of jalap, and of ſcammony; and it is uſed for diſſolving or corroding ſome metallic bodies, particularly antimony, from which it receives a ſtrong emetic impregnation, as in the preparation formerly called *emetic tartar*, but now more properly ſtyled *antimonium tartarizatum*.

TEREBINTHINA [*Lond. Ed.*] *Reſina.*

Pinus larix Lin.

Turpentine.

The turpentines are reſinous juices extracted

extracted from trees of the pine-tribe. There are four kinds of turpentine, diſtinguiſhed in the ſhops.

TEREBINTHINA CHIA, ſive CYPRIA.

Chian, or Cyprus turpentine.

This juice is generally about the conſiſtence of thick honey, very tenacious, clear, and almoſt tranſparent, of a white colour, with a caſt of a yellow, and frequently of blue: it has a warm, pungent, bitteriſh taſte; and a fragrant ſmell, more agreeable than any of the other turpentines.

The turpentine brought to us, is extracted in the iſlands whoſe names it bears, by wounding the trunk and branches a little after the buds have come forth; the juice iſſues limpid, and clear as water, and by degrees thickens into the conſiſtence in which we meet with it. A like juice exuding from this tree in the eaſtern countries, inſpiſſated by a ſlow fire, is of frequent uſe as a maſticatory, among the Perſian ladies, who, as Kœmpfer informs us, are continually chewing it, in order to faſten and whiten the teeth, ſweeten the breath, and promote appetite.

TEREBINTHINA VENETA.

Venice turpentine.

This is uſually thinner than any of the other ſorts, of a clear, whitiſh, or pale yelloviſh colour, a hot, pungent, bitteriſh, diſagreeable taſte, and a ſtrong ſmell, without any thing of the fine aromatic flavour of the Chian kind.

What is uſually met with in the ſhops, under the name of *Venice turpentine*, comes from New England; of what tree it is the produce, we have no certain account: the finer kinds of it are in appearance and quality not conſiderably different from the true ſort abovedeſcribed.

TEREBINTHINA ARGENTORATENSIS.

Straſburgh turpentine.

This, as we generally meet with it, is of a middling conſiſtence between the two foregoing, more tranſparent, and leſs tenacious than either; its colour a yelloviſh brown. Its ſmell is very fragrant, and more agreeable than that of any of the other turpentines, except the Chian; in taſte it is the bittereſt, yet the leaſt acrid.

This reſin is obtained from the two ſorts of fir-trees, the moſt plentiful, and perhaps the only ones, that grow ſpontaneouſly in Europe. There is another, whoſe reſin is much ſuperior to the common turpentine, and has ſometimes been brought to us from abroad under the name of *balſamum canadenſe*. The Virginian, or Canada fir, though not a native of this climate, has been found to endure its ſevereſt colds.

TEREBINTHINA COMMUNIS.

Common turpentine.

This is the coarſeſt, heavieſt, and in taſte and ſmell the moſt diſagreeable, of all the ſorts: it is about the conſiſtence of honey, of an opaque browniſh white colour.

This is obtained from the wild pine, a low unhandſome tree, common in different parts of Europe. This tree is extremely reſinous, and remarkably ſubject to a diſeaſe from a redundance and extravaſation of its reſin, inſomuch that, without due evacuation it ſwells and burſts. The juice as it iſſues from the tree is received in trenches made in the earth, and afterwards freed from the groſſer impurities by colature through wicker baſkets.

All

All these juices yield in distillation with water an highly penetrating essential oil, a brittle insipid resin remaining behind. With regard to their medical virtues, they promote urine, cleanse the parts concerned in the evacuation thereof, and deterge internal ulcers in general; and at the same time, like other bitter hot substances, strengthen the tone of the vessels: they have an advantage above most other acrid diuretics, that they gently loosen the belly. They are principally recommended in gleets, the fluor albus, and the like; and by some in calculous complaints: where these last proceed from the sand or gravel, formed into a mass by viscid mucous matter, the turpentines, by dissolving the mucus, promote the expulsion of the sand; but where a calculus is formed, they can do no service, and only ineffectually irritate or inflame the parts. In all cases accompanied with inflammation, these juices ought to be abstained from, as this symptom is increased, and not unfrequently occasioned, by them. It is observable, that the turpentines impart, soon after taking them a violet smell to the urine; and have this effect though applied only externally to remote parts; particularly the Venice sort. This is accounted the most powerful as a diuretic and detergent; and the Chian and Strasburgh as corroborants. The common turpentine, as being the most offensive is rarely given internally; its principal use is in plasters and ointments among farriers, and for the distillation of the oil, or spirit, as it is called. The dose of these juices is from a scruple to a dram and a half; they are most commodiously taken in the form of a bolus, or dissolved in watery liquors by the mediation of the yolk of an egg or mucilage. Of the distilled oil, a few drops are a sufficient dose; this is a most potent, stimulating, detergent diuretic, oftentimes greatly heats the constitution, and requires the utmost caution in its exhibition. Taken internally, when mixed with honey, it has been alleged to prove a powerful remedy in obstinate rheumatic cases, particularly in ischias.

TERRA JAPONICA, vide CATECHU.

TESTÆ OSTREORUM [*Lond.*]

Ostrea edulis Lin.

Oyster-shells.

These, in their natural state, furnish us with an absorbent powder of an astringent quality, and sometimes they are employed to restrain looseness arising from acidity. When calcined, they are often employed for making lime-water.

THEA [*Brun.*] *Folium.*

Thea bohea et viridis Lin.

Tea; the leaf.

The several sorts of tea met with among us, are the leaves of the same plant collected at different times, and cured in a somewhat different manner; the small young leaves very carefully dried, are the finer green: the older afford the ordinary green and bohea. The two first have a sensible flavour of violets: the other of roses: the former is the natural odour of the plant; the latter, as Newmann observes, is probably introduced by art: some of the dealers in this commodity in Europe, are not ignorant that bohea tea is imitable by the leaves of certain common plants artificially tinctured and impregnated with the rose flavour. The taste of both sorts is lightly bitterish, subastringent, and somewhat aromatic. The medical virtues attributed to these leaves are sufficiently numerous, though few

of

of them have any juſt foundation: little more can be expected from the common infuſions than that of a diluent, acceptable to the palate and ſtomach: the diuretic, diaphoretic, and other virtues for which they have been celebrated, depend more on the quantity of warm fluid, than any particular qualities which it gains from the tea. Nothing ariſes in diſtillation from either ſort of tea with rectified ſpirit; water elevates the whole of their flavour.

Good tea, in a moderate quantity, ſeems to refreſh and ſtrengthen; but if taken in a recent highly flavoured ſtate, and in conſiderable quantity, its uſe is apt to be ſucceeded by weakneſs and tremors, and other ſimilar conſequences reſulting from the narcotic vegetables. Yet it is highly probable, that many of the bad as well as good effects ſaid to reſult from it, are the conſequences of the warm water.

THLAPSI [*Brun.*] *Semen.*
Thlapſi arvenſe Lin.
Mithridate muſtard; the ſeed.

Two ſorts of thlapſi are uſed promiſcuouſly; they both grow wild; their ſeeds have an acrid biting taſte like common muſtard, with which they agree in medical qualities.

THUS MASCULUM, vide OLIBANUM.

THUS VULGARE [*Lond.*] *Reſina.*
Common frankincenſe.

This is a ſolid, brittle reſin, brought to us in little globes or maſſes of a browniſh or yellowiſh colour on the outſide, internally whitiſh or variegated with whitiſh ſpecks, of a bitteriſh, acrid, not agreeable taſte, without any conſiderable ſmell. It is ſuppoſed to be the produce of the pine tree which yields the terebinthina communis; and to concrete on the ſurface of the terebinthinate juice ſoon after it has iſſued from the plant. It gives name to one plaſter, the emplaſtrum thuris, and is a principal ingredient in another, the emplaſtrum ladani.

THYMUS [*Ed.*] *Herba.*
Thymus vulgaris Lin.
Common thyme; the herb.

This plant is frequent in our gardens, and flowers in June and July. It has an agreeable aromatic ſmell, and a warm pungent taſte, which it imparts by infuſion to rectified ſpirit, and ſends over in diſtillation with water; along with the water an eſſential oil, extremely hot and pungent alſo ariſes. This oil is often ſold in the ſhops for that of origanum. It frequently gives eaſe in caſes of odontalgia, when topically applied to a caries tooth.

TILIA [*Suec.*] *Flores.*
Tilia europæa Lin.
The lime, or linden tree; its flowers.

The lime tree has been much valued on account of its quick growth and pleaſant ſhade; it flowers in July, and loſes its leaves ſoon after. The flowers are chiefly uſed on account of their agreeable flavour, which water extracts from them by infuſion, and elevates in diſtillation. Among the writers on the materia medica, they have the character of an antiepileptic, and a ſpecific in all kinds of ſpaſms and pains. Frederick Hoffman relates, that he knew a chronical epilepſy cured by the uſe of an infuſion of theſe flowers drank as tea.

TINCAL, vide BORAX.

TORMENTILLA [*Lond. Ed.*] *Radix.*

Tormentilla erecta Lin.

Tormentil, or ſeptfoil; the root.

Tormentil is found wild in woods and on commons: it has long ſlender ſtalks, with uſually ſeven long narrow leaves at a joint; the root is for the moſt part crooked and knotty, of a blackiſh colour on the outſide, and a reddiſh within. This root has an auſtere ſtyptic taſte, accompanied with a ſlight kind of aromatic flavour; it is one of the moſt agreeable and efficacious of the vegetable aſtringents, and is employed with good effect in all caſes where medicines of this claſs are proper. It is more uſed, both in extemporaneous preſcription and in officinal compoſition, than any of the other ſtrong vegetable aſtringents: it is an ingredient in the London compound powder of chalk. A tincture made from it with rectified ſpirit poſſeſſes the whole aſtringency and flavour of the root, and loſes nothing of either in inſpiſſating.

TRAGACANTHA, vide GUMMI TRAGACANTHA.

TRICHOMANES [*Ed.*] *Herba.*

Aſplenium trichomanes Lin.

Maidenhair; the herb.

This is one of the herbs called, from the ſmallneſs of their ſtalks, capillary: it is found wild in different parts of Britain, upon old walls, and in ſhady places. The leaves have a mucilaginous, ſweetiſh, ſubaſtringent taſte, without any particular flavour; they are eſteemed uſeful in diſorders of the breaſt, proceeding from a thickneſs and acrimony of the juices; and are likewiſe ſuppoſed to promote the expectoration of tough phlegm, and to open obſtructions of the viſcera. They are uſually directed in infuſion or decoction, with the addition of a little liquorice. A ſyrup prepared from them, though it has now no place in our pharmacopœias, is frequently to be met with in our ſhops, both as prepared at home and imported from abroad. A little of theſe ſyrups mixed with water makes a very pleaſant draught. The ſyrup brought from abroad has an admixture of orange-flower water.

TRIFOLIUM PALUDOSUM [*Lond. Ed.*] *Herba.*

Menyanthes trifoliata Lin.

Buck-bean, or marſh trefoil; the herb.

This plant grows wild in moiſt marſhy places; it has three oval leaves, ſtanding together upon one pedicle which iſſues from the root; their taſte is very bitter, and ſomewhat nauſeous. Marſh trefoil is an efficacious aperient and deobſtruent, promotes the fluid ſecretions, and if liberally taken, gently looſens the belly. Some recommend it in ſcrophulous and other ill-conditioned ulcers; inveterate cutaneous diſeaſes have been removed by an infuſion of the leaves drank to the quantity of a pint a day at intervals, and continued for ſome weeks Boerhaave relates, that he was relieved of the gout by drinking the juice mixed with whey.

TRITICUM [*Lond.*] *Farina, amylum.*

Triticum hybernum Lin.

Wheat; the flour and ſtarch.

Wheat, a common article of food, is more nutritious than moſt other kinds of grain. The flour, or the ſtarch prepared from it, form with water a ſoft viſcid ſubſtance, which has been taken with good ſucceſs in diarrhœas and dyſenteries. Starch is an ingredient in the compound powder of gum tragacanth, and the white pectoral troches,

troches, which are now more properly ſtyled ſtarch troches.

Bran contains, beſides the huſks or ſhells of the wheat, a portion of its farinaceous matter: This is leſs glutinous than the flour, and is ſuppoſed to have a detergent quality. Infuſions of bran are not unfrequently employed with this intention externally, and ſometimes likewiſe taken internally.

Bread, carefully toaſted, and infuſed, or lightly boiled in water, imparts a deep colour, and a ſufficiently agreeable reſtringent taſte. This liquor, taken as common drink, has done good ſervice in a weak lax ſtate of the ſtomach and inteſtines; and in bilious vomiting and purging, or the cholera morbus. Examples are related in the Edinburgh Eſſays of ſeveral caſes of this kind cured by it, without the uſe of any other medicine.

It is alſo a very common and a very proper drink in diſeaſes of the febrile kind.

When a farinaceous powder is ſteeped in cold water and ſtrained through a cloth, a glutinous part remains in the cloth, which ſome ſuppoſe to be the nutrient principle, as it is quite ſimilar to animal jelly; a ſtarch paſſes through with the water, ſettles at the bottom, and a ſweet mucilage is kept diſſolved in the water. It is probably the juſt proportion of theſe three ingredients in wheat which gives that grain a preference in diet over the reſt. The gluten is inſoluble in water; but when mixed with the other two, and ſeaſoned with ſalt, in that ſtate made to ferment by yeaſt or leaven, and this fermentation, checked by the heat of the oven, the ingredients become ſo intimately united, that they cannot be ſeparated; the viſcidity of the gluten is diminiſhed, and the whole thus forms a very ſoluble and nutritious bread.

TURPETHUM [*Brun.*] *Radicis cortex.*

Convolvulus turpethum Lin.

Turbith; the cortical part of the root.

The cortical part of this root is brought to us in oblong pieces, of a brown or aſh-colour, on the outſide, and whitiſh within. The beſt is ponderous, not wrinkled, eaſy to break, and diſcovers a large quantity of reſinous matter to the eye: its taſte is at firſt ſweetiſh; chewed for a little time, it becomes acrid, pungent, and nauſeous. This root is a cathartic, not of the ſafeſt or moſt certain kind. The reſinous matter, in which its virtue reſides, appears to be very unequally diſtributed, inſomuch that ſome pieces, taken from a ſcruple to a dram, purge violently, while others, in larger doſes, have ſcarce any effect at all. An extract made from the root is more uniform in ſtrength, though not ſuperior or equal, to purgatives more common in the ſhops.

TUSSILAGO [*Lond Ed.*] *Herba, flores.*

Tuſſilago farfara Lin.

Colt's foot; the herb and flowers.

This grows wild in watery places, producing yellow flowers in February and March; theſe ſoon fall off, and are ſucceeded by large roundiſh leaves, hairy underneath: their taſte is herbaceous, ſomewhat glutinous, and ſubacrid. Tuſſilago ſtands recommended in coughs, phthiſis, and other diſorders of the breaſt and lungs, and ſome uſe it in ſcrophula. It is chiefly directed to be taken with milk; and upon this probably, more than on the tuſſilago itſelf, any benefit derived from it in practice is to be explained.

TUTIA [*Ed.*]

Tutty.

This is an impure ſublimate of zinc,

zinc, or an argillaceous ſubſtance impregnated therewith, formed into tubulous pieces like the bark of a tree. It is moderately hard and ponderous; of a browniſh colour, and full of ſmall protuberances on the outſide, ſmooth and yellowiſh within; ſome pieces have a blueiſh caſt, from minute globules of zinc being thrown up by the heat in its metallic form. Tutty is celebrated as an ophthalmic, and frequently employed as ſuch in unguents and collyria: it gives name to an officinal ophthalmic ointment.

VALERIANA SYLVESTRIS. [*Lond. Ed.*] *Radix.*
Valeriana officinalis Lin.
Wild valerian; the root.

This root conſiſts of a number of ſtrings or fibres matted together, iſſuing from one common head; of a whitiſh or pale browniſh colour: its ſmell is ſtrong, like a mixture of aromatics with fetids; the taſte unpleaſantly warm, bitteriſh, and ſubacrid. There is a wild valerian, with broader leaves, of a deeper and ſhining green colour, met with in watery places. Both ſorts have been uſed indiſcriminately; and Linné has joined them into one ſpecies: but the firſt is conſiderably the ſtrongeſt, and loſes its quality if tranſplanted into ſuch ſoils as the other naturally delights in. The roots, produced in low watery grounds, have a remarkably faint ſmell in compariſon of the others, and ſometimes ſcarce any at all. The roots taken up in autumn or winter, have alſo much ſtronger ſenſible qualities than thoſe collected in ſpring and ſummer. Wild valerian is a medicine of great uſe in nervous diſorders, and is particularly ſerviceable in epilepſies, proceeding from a debility of the nervous ſyſtem. It was firſt brought into eſteem in theſe caſes by Fabius Columna; who by taking the powdered root in the doſe of half a ſpoonful, was cured of an inveterate epilepſy, after many other medicines had been tried in vain. Repeated experience has ſince confirmed its efficacy in this diſorder; and the preſent practice lays conſiderable ſtreſs upon it. It can, however, by no means be repreſented as uniformly, or even frequently, ſucceſsful, and that too although employed in very large doſes. In the Edinburgh Diſpenſary, in caſes of epilepſy in which there was no evidence of local affection, it has been given to the extent of two ounces a day without effect.

Some recommend it as uſeful in procuring ſleep, particularly in fever, even when opium fails: But it is principally uſeful in affections of the hyſterical kind.

The common doſe is from a ſcruple to a dram in powder; and in infuſion, from one to two drams. Its unpleaſant flavour is moſt effectually concealed by a ſuitable addition of mace.

A tincture of valerian in proof, and in volatile ſpirit are kept in the ſhops.

VERATRUM, vide HELLEBORUS ALBUS.

VERBASCUM [*Ed.*] *Folium.*
Verbaſcum thapſus Lin.
Mullein; the leaf.

This plant is met with by road ſides and under hedges. It is clothed with ſoft downy leaves, and produces long ſpikes of yellow flowers in July. To the taſte it manifeſts a glutinous quality, and has been recommended as an emollient. Some hold it in eſteem in conſumptions, others have recommended it ſtrongly in dyſenteric affections; but moſt practitioners are diſpoſed to put little dependence on it in either. It has ſometimes, although perhaps ſtill leſs frequently, been employed externally in ill conditioned ulcers.

VE-

VERONICA [*Suec.*] *Herba.*
Veronica officinalis Lin.
Male ſpeedwell; the herb.

This is one of the veronicæ which produce their flowers in cluſters at the joints of the ſtalks: it is a rough procumbent plant, not unfrequently met with on dry commons and in ſandy grounds. In taſte, ſmell, and medical virtues, it is ſimilar to the betonica, though the veronica is commonly ſuppoſed to have more of an aperient and pectoral virtue, and betony to be rather nervine and cephalic. Hoffman and Joh. Francus have written expreſs treatiſes on this plant, recommending infuſions of it, drank in the form of tea, as very ſalubrious in many diſorders, particularly thoſe of the breaſt.

VINCETOXICUM [*Suec.*]
Radix.
Aſclepias vincetoxicum Lin.
Swallow wort, or tame poiſon; the root.

This is a native of the warmer climates; it is ſometimes met with in our gardens, but rarely perfects its ſeeds. It is reckoned by botaniſts a ſpecies of apocynum, or dogſbane; from all the poiſonous ſorts of which it may be diſtinguiſhed, by yielding a limpid juice, while that of the others is milky. The root has a ſtrong ſmell, eſpecially when freſh, approaching to that of valerian, or nard; the taſte is at firſt ſweetiſh and aromatic, but ſoon becomes bitteriſh, ſubacrid, and naſeous. This root is eſteemed ſudorific, diuretic, and emmenagogue, and frequently employed by the French and German phyſicians as an alexipharmac, ſometimes as a ſuccedaneum for contrayerva; whence it has received the name of *contrayerva Germanorum*. Among us it is very rarely uſed. It appears from its ſenſible qualities to be a medicine of much the ſame kind with valerian, which is probably preferable to it.

VINUM [*Lond Ed.*]
Wine; the fermented juice of the grape. Among the great variety of wines in common uſe among us, four are employed in the ſhops as menſtrua for medicinal ſimples.

Vinum album Hiſpanicum, Mountain.
Vinum Canarium, Canary or ſack.
Vinum Rhenanum, Rheniſh.
Vinum Rubrum, Red port.

Wines conſiſt chiefly of water, alcohol, a peculiar acid, the aerial acid, tartar, and an aſtringent gummy reſinous matter, in which the colour of red wines reſides, and which is ſqueezed out from the huſks of the grapes. They differ from each other in the proportion of theſe ingredients, and particularly in that of the alcohol which they contain.

The uſes of theſe liquors as menſtrua and vehicles of the virtues of other medicines, will be given hereafter; in this place we ſhall conſider only their effects on the human body. Theſe are, to ſtimulate the ſtomach, cheer the ſpirits, warm the habit, promote perſpiration, render the veſſels full and turgid, raiſe the pulſe, and quicken the circulation.

Sweet wines are ſtronger than they appear from the taſte, becauſe two impreſſions ſtrike more feebly when combined than when ſeparate. Red port, and moſt of the red wines, have an aſtringent quality, by which they ſtrengthen the tone of the ſtomach and inteſtines, and are thus uſeful for reſtraining immoderate ſecretions. Thoſe which are of an acid nature, as Rheniſh, paſs freely by the kidneys, and gently looſen the belly. It is ſuppoſed that theſe laſt exaſperate or

occaſion gouty and calculous diſorders; and that new wines of every kind have this effect.

Wine is much uſed in fevers of the typhous kind, and often with great ſucceſs, particularly when the appetite ſeems to call for it, and when the ſtomach rejects all food. Claret, Madeira, and Port are thoſe commonly employed in Britain.

VIOLA [*Lond. Ed.*] *Flos recens.*

Viola odorata Lin.

The March violet; the freſh flower.

This is often found wild in hedges and ſhady places, and flowers in March; the ſhops are generally ſupplied from gardens. In our markets we meet with the flowers of different ſpecies; theſe may be diſtinguiſhed from the foregoing by their being larger, of a pale colour, and of no ſmell. The officinal flowers have a very pleaſant ſmell, and a deep purpliſh blue colour, denominated from them *violet*. They impart their colour and flavour to aqueous liquors: a ſyrup made from this infuſion has long maintained a place in the ſhops, and proves an agreeable and uſeful laxative for children.

VIPERA [*Ed.*]

Coluber berus Lin.

The viper.

The viper is one of the viviparous reptiles, without feet, about an inch thick, and twenty or thirty long. The poiſon of this ſerpent is confined to its mouth: at the baſis of the fangs, or long teeth with which it wounds, is lodged a little bag containing the poiſonous liquid; a very minute portion of which, mixed immediately with the blood, proves fatal. Our viper-catchers are ſaid to prevent the miſchiefs otherwiſe following from the bite, by rubbing olive oil warm on the part. The fleſh of the viper is perfectly innocent; and ſtrongly recommended as a medicine of extraordinary ſervice in ſcrophulous, leprous, rheumatic, and other obſtinate chronical diſorders. Its virtues, however, in theſe caſes, are probably too much exaggerated. The viper is doubtleſs an highly nutritious food; and hence in ſome kinds of weakneſſes, and emaciated habits, is not undeſervedly looked on as a good reſtorative. To anſwer any valuable purpoſes, freſh vigorous vipers, not ſuch as have been long kept alive after they are caught, ſhould be liberally uſed as food. The wines and tinctures of them can ſcarce be ſuppoſed to receive any conſiderable virtue from the animal; the dry fleſh brought to us from abroad is probably entirely inſignificant.

VIRGA AUREA [*Brun.*] *Herba.*

Solidago virga aurea Lin.

Golden rod; the herb.

This is found wild on heaths and in woods, producing ſpikes of yellow flowers in Auguſt. The leaves have a moderately aſtringent bitter taſte; and hence prove ſervicable in debility and laxity of the viſcera, and diſorders proceeding from that cauſe.

VISCUS [*Suec.*] *Lignum.*

Viſcus albus Lin.

Miſſeltoe; the wood.

This is a buſhy plant, growing on the trunk and branches of different trees: that met with on the oak is generally prefered, perhaps on account of its being the moſt rare. It may, however, be propagated by art on any trees, by rubbing the berries againſt the bark. This office has hitherto been performed by the thruſh (who feeds on the berries in the

the winter) in clearing his bill from the ſeeds that ſtick about it. This plant was held in veneration by the ſuperſtition of former ages: it was hung about the neck to prevent witchcraft, and taken internally to expel poiſons. It has been celebrated as a ſpecific in epilepſies, palſies, &c.; virtues, to which it were greatly to be wiſhed that experience gave any countenance; but ſo little reliance is now put upon it, that it is entirely rejected both by the London and Edinburgh colleges.

VITIS [*Lond.*]
Vitis vinifera Lin.
The vine tree.

The leaves of this tree were formerly celebrated as aſtringents, but have for a long time been entirely diſregarded: their taſte is herbaceous, with only a ſlight roughneſs. The trunk of the tree, wounded in the ſpring, yields a clear, limpid, watery juice: This tear of the vine has been accounted excellent for ſore eyes; and by ſome recommended likewiſe in ardent and malignant fevers, and as a diuretic. The flowers have a pleaſant ſmell, which water elevates from them in diſtillation; along with the water, a ſmall portion of an elegant eſſential oil is ſaid to ariſe, poſſeſſing in great perfection the fragrance of the flowers.—The unripe fruit is of a very harſh, rough, ſour taſte: its expreſſed juice, called verjuice, was of great eſteem among the antients, and ſtill continues ſo in ſome places, as a cooling aſtringent medicine: a rob and ſyrup were formerly prepared from it.—The ripe fruit or grapes, of which there are ſeveral kinds, properly cured and dried, are the raiſins of the ſhops: the juice by fermentation affords wine, vinegar, and tartar; of all which mention has already been made.

VITRIOLUM ALBUM, *ſive* ZINCI [*Ed.*]
White vitriol, or vitriol of zinc.

This is chiefly found in its native ſtate in the mines of Goſlar, ſometimes in tranſparent pieces, but more commonly in form of white efflorescences, which are diſſolved in water, and afterwards reduced by evaporation and cryſtalliſation into large maſſes. We rarely meet with this ſort of vitriol pure: it is ordered therefore to be prepared. After the zinc, which is its proper baſis, has been revived by inflammable fluxes, there remains a ſubſtance which is attracted by the magnet, and alſo diſcovers itſelf on other trials to be iron. A ſolution of the vitriol depoſites on ſtanding an ochry ſediment, which generally gives a blue tincture to volatile alkalies, and hence appears to contain copper. White vitriol is ſometimes given from five to ſix grains to half a dram, as an emetic; it operates very quickly, and, if pure, without violence. Externally, it is employed as an ophthalmic, and often made the baſis of collyria, both in extemporaneous preſcription and in diſpenſatories; ſuch as the aqua zinci vitriolati cum camphora of the London pharmacopœia.

VITRIOLUM CŒRULEUM *ſive* CUPRI [*Ed.*]
Blue vitriol, or vitriol of copper, falſely called Roman vitriol.

Greateſt part of the blue vitriol at preſent met with in the ſhops, is ſaid to be artificially prepared by uniting copper with the vitriolic acid. This ſalt has a highly acrid, auſtere, and very nauſeous taſte. It is a ſtrong emetic, and is recommended as ſuch by ſome in incipient phthiſis, when ſuppoſed to be from tubercles. Its principal uſe is externally as an eſcharotic; and for ſtopping hemorrhagies, which it effects by

by coagulating the blood, and contracting the mouths of the veſſels. It is the baſis to an officinal water for this intention.

VITRIOLUM VIRIDE, *ſive* FERRI [*Ed.*]

Green vitriol, or vitriol of iron, commonly called *copperas*.

This is prepared in large quantity at Deptford, by diſſolving iron in the acid liquor which runs from certain ſulphureous pyritæ, expoſed for a length of time to the air. When pure, it is ſimilar in quality to the officinal *ſal martis* or *chalybis*.

The green and blue vitriols (as well as the white) are in many places found native in the earth; tho' uſually, in this ſtate, neither ſort is free from an admixture of the other: hence vitriols are met with of all the intermediate colours between the graſs green of the one and the ſapphire blue of the other.

The acid of theſe ſalts has the greateſt affinity with zinc, next to this with iron, and with copper the leaſt of all. Hence ſolutions of white vitriol depoſite, on ſtanding, greateſt part of the irony and cupreous matter which they contain; and if ſome freſh zinc be added, the whole. In like manner, upon adding poliſhed iron to ſolutions of green vitriol, if it holds any copper this will be thrown down. By this means the white and green vitriols may be purified from other metallic bodies. Green vitriol has the general medical effects of iron, but is much leſs frequently employed than ſome other chalybeates.

ULMARIA [*Brun.*] *Radix.*
Spirea ulmaria Lin.

Meadow-ſweet, or Queen of the Meadows; the root.

This herb is frequent in moiſt meadows, and about the ſides of rivers; it flowers in the beginning of June, and continues in flower a conſiderable time. The flowers have a very pleaſant flavour, which water extracts from them by infuſion, and elevates in diſtillation. The leaves are herbaceous. But neither of theſe at preſent enter any pharmacopœias. The roots are uſed in ſome plaſters, in which they have probably no influence.

ULMUS [*Lond. Ed.*] *Cortex interior.*
Ulmus campeſtris Lin.

The elm-tree; the inner bark.

This bark has a mild aſtringent taſte. A decoction formed from it, by boiling an ounce with a pound of water, to the conſumption of one half, has been highly recommended by ſome, particularly by Dr Letſome, in obſtinate cutaneous eruptions.

URTICA [*Lond. Ed.*] *Herba.*
Urtica dioica Lin.

Common nettle; the herb.

The leaves of the freſh nettle ſtimulate, inflame, and raiſe bliſters on thoſe parts of the ſkin which they touch. Hence when a powerful rubefacient is required, ſtinging with nettles has been recommended. It has been alleged to have ſometimes ſucceeded in reſtoring ſenſe and motion to paralytic limbs. Both the herb and ſeed were formerly believed to be lithontriptic and powerfully diuretic; and many other virtues were attributed to them, to which the preſent practice pays no regard. The young leaves are by ſome uſed in the ſpring as a wholeſome pot-herb.

UVA PASSA [*Lond.*]

Raiſins of the ſun; the dried grapes of the *vitis Damaſcena*.

UVÆ

UVÆ PASSÆ *Minores.*

Currants; the dried grapes of the *vitis Corinthiaca.*

The principal use of these is as an agreeable sweet; they impart a very pleasant flavour both to aqueous and spirituous menstrua. The seeds or stones are supposed to give a disagreeble relish, and hence are generally directed to be taken out. The raisins of the sun are an ingredient in the compound decoction of barley, the tincture of senna, and the compound tincture of cardamums.

UVA URSI [*Lond. Ed.*] *Folium.*

Arbutus uva-ursi Lin.

Whortleberry; the leaf.

The uva ursi is a low shrub, somewhat resembling the myrtle. It seems first to have been employed in medicine in Spain and the south of France; it is an indigenous vegetable of these countries, but it grows also in northern climates, particularly in Sweden, and on the hills of Scotland. The leaves have a bitterish astringent taste; and their latter quality is so considerable, that in certain places, particularly in some of the provinces of Russia, they are used for tanning leather. A watery infusion of the leaves immediately strikes a very black colour with chalybeates.

The uva ursi seems first to have been employed in medicine with a view to its astringent power. With this intention, it was used under the form of decoction, for restraining an immoderate flow of the menses, against other hæmorrhagies, in cases of diarrhœa and dysentery, and for the cure of cutaneous eruptions. But it had fallen much into disuse till its employment was again revived by Dr de Haen of Vienna. He bestowed very high encomiums, on it, against ulcerations of the kidneys, bladder, and urinary passages. He represents it as capable of curing almost every case of that kind; and even asserts, that in cases of calculus much benefit is derived from its use; patients after the employment of it passing their water easily and without pain. It has, however, by no means answered the expectations which on these grounds other practitioners formed of it: But in many affections of the urinary organs, it has proved to be a remedy of some use; and it has been particularly serviceable in alleviating dyspeptic symptoms in nephritic and calculous cases. It has also been serviceable in cystirrhœa or catarrhus vesicæ; and it has been thought to be sometimes productive of advantage in diabetes. It is sometimes used in the form of decoction, but most frequently in that of powder, from a scruple to a dram for a dose, repeated two or three times a day.

WINTERANUS CORTEX. [*Brun.*]

Winterania aromatica.

Winter's bark.

This is the produce of a tree growing about the southern promontory of America. It was first discovered on the coast of Magellan by Captain Winter, in the year 1567: the sailors then employed the bark as a spice, and afterwards found it serviceable in the scurvy; for which purpose it is at present also sometimes used in diet-drinks. The true winter's bark is not often met with in the shops, canella alba being generally substituted for it, and by many it is reckoned to be the same: There is, however, a considerable dif-

difference between them in appearance, and a greater in quality. The winter's bark is in larger pieces, of a more cinnamon colour than the canella; and taſtes much warmer and more pungent.

ZEDOARIA [*Lond. Ed.*] *Radix.*

Kempferia rotunda Lin.

Zedoary; the root.

Zedoary is the root of a plant growing in the Eaſt Indies. It is brought over in oblong pieces about the thickneſs of the finger, or in roundiſh ones about an inch in diameter. Both ſorts have an agreeable fragrant ſmell, and a warm, bitteriſh, aromatic taſte.

In diſtillation with water, it yields an eſſential oil, poſſeſſing the ſmell and flavour of the zedoary in an eminent degree; the remaining decoction is almoſt ſimply bitter. Spirit likewiſe brings over ſome ſmall ſhare of its flavour: nevertheleſs the ſpirituous extract is conſiderably more grateful than the zedoary itſelf.

ZIBETHUM [*Brun.*]

Viverra zibetha Lin.

Civet.

This is a ſoft unctuous ſubſtance, of a white, brown, or blackiſh colour, brought from the Brazils, the coaſt of Guinea, and the Eaſt-Indies. It is met with in certain bags, ſituated in the lower part of the belly of an animal, ſaid to be of the cat kind. The chief uſe of this drug is in perfumes; it is rarely, if ever, employed for any medicinal purpoſes.

ZINCUM [*Lond. Ed.*]

Zinc.

This is a ſemimetal, inflammable *per ſe*; ſublimable into flowers, which afterwards remain fixed in the ſtrongeſt fire; ſoluble in every acid; not miſcible in fuſion with ſulphur; changing copper into a metal, called braſs. Several productions of this metal, though not generally known to be ſuch, are kept in the ſhops; as its rich ore calamine, the white vitriol, the pure white flowers of zinc called *pompholyx*, and the more impure tutty. Of ſeveral of theſe we have already had occaſion to ſpeak.

The preparations of zinc are employed principally in external applications as ophthalmics. The flowers levigated into an impalpable powder, form with oily ſubſtances an uſeful unguent, and with roſe and other waters, elegant collyria, for deflections of thin ſharp humours on the eyes. They are moderately aſtringent; and act, if the levigation has been duly performed, without acrimony or irritation.

Internally, they have been recommended in epilepſy and other ſpaſmodic affections, both alone and with the cuprum ammoniacum; and ſome think they prove an uſeful addition to the Peruvian bark in intermittents.

ZINGIBER [*Lond. Ed.*] *Radix.*

Amomum zingiber Lin.

Ginger; the root.

This root is brought from China, from the Eaſt and Weſt Indies. It has a fragrant ſmell, and a hot, biting, aromatic taſte. Rectified ſpirit extracts its virtues by infuſion, in much greater perfection than aqueous liquors; the latter elevate its whole flavour in diſtillation, the former little or nothing. Ginger is a very uſeful ſpice in cold flatulent colics, and in laxity and debility of the inteſtines: it does not heat ſo much as thoſe of the pepper kind, but its effects are more durable.

rable. It gives name to an officinal ſyrup, to the *zingiber conditum*, or candied ginger brought from abroad; enters the *electuarium cardiacum*, and ſome other compoſitions.

General TITLES *including ſeveral* SIMPLES.

The five opening roots:
- Smallage,
- Aſparagus,
- Fennel,
- Parſley,
- Butchers broom.

The five emolient herbs:
- Marſhmallows,
- Mallows,
- Mercury,
- Pellitory of the wall,
- Violets.

The four cordial flowers:
- Borage,
- Bugloſs,
- Roſes,
- Violets.

The four greater hot ſeeds:
- Aniſe,
- Caraway,
- Cummin,
- Fennel.

The four leſſer hot ſeeds:
- Biſhopſeed,
- Stone parſley,
- Smallage,
- Wild carrot.

The four greater cold ſeeds:
- Water melons,
- Cucumbers,
- Gourds,
- Melons.

The four leſſer cold ſeeds:
- Succory,
- Endive,
- Lettuce,
- Purſlane.

The four capillary herbs: { Maidenhair, English maidenhair, Wall rue, Ceterach.

The four carminative flowers: { Camomile, Feverfew, Dill, Melilot.

The ſimples of each of the above claſſes have been often employed together, under the reſpective general appellations. This practice has entirely ceaſed among us; and accordingly theſe denominations are now expunged both from the London and Edinburgh pharmacopœias, and they are now retained in very few of the foreign ones. But as theſe articles are frequently mentioned under their general titles by writers of eminence, we imagined that the above enumeration of them might be of ſome uſe.

General Rules *for the Collection and Preſervation of* Simples.

Roots.

Annual roots are to be taken up before they ſhoot out ſtalks or flowers: Biennial ones, chiefly in the autumn of the ſame year in which the ſeeds were ſown: The perennial, when the leaves fall off, and therefore generally in the autumn. Being waſhed clean from dirt, and freed from the rotten and decayed fibres, they are to be hung up in a warm, ſhady, airy place, till ſufficiently dried. The thicker roots require to be ſlit longitudinally, or cut tranſverſely into thin ſlices. Such roots as loſe their virtues by exſiccation, or are deſired to be preſerved in a freſh ſtate, for the greater conveniency of their uſe in certain forms, are to be kept buried in dry ſand.

There are two ſeaſons in which the biennial and perennial roots are reckoned the moſt vigorous, the autumn and ſpring; or rather the time when the ſtalks or leaves have fallen off, and that in which the vegetation is juſt to begin again, or ſoon after it has begun; which times are found to differ conſiderably in different plants.

The college of Edinburgh, in the two firſt editions of their pharmacopœia, directed them to be dug in the ſpring, after the leaves were formed; in the third edition, the autumn

autumn was preferred. The generality of roots appear, indeed, to be moſt efficacious in the ſpring: but as at this time they are alſo the moſt juicy, and conſequently ſhrivel much in drying, and are rather more difficultly preſerved, it is commonly thought moſt adviſable to take them up in autumn. No rule, however, can be given, that ſhall obtain univerſally: arum root is taken even in the middle of ſummer, without ſuſpicion of its being leſs active than at other ſeaſons; while angelica root is inert during the ſummer, in compariſon of what it was in the autumn, ſpring, or winter.

Herbs and Leaves.

Herbs are to be gathered when the leaves have come to their full growth, before the flowers unfold; but of ſome plants the flowery tops are preferred. They are to be dried in the ſame manner as roots.

For the gathering of leaves, there cannot perhaps be any univerſal rule, any more than for roots; for though moſt herbs appear to be in their greateſt vigour about the time of their flowering, or a little before, there are ſome in which the medicinal parts are more abundant at an earlier period.

Thus mallow and marſhmallow leaves are moſt mucilaginous when young, and by the time of flowering approach more to a woody nature. A difference of the ſame kind is more remarkable in the leaves of certain trees and ſhrubs: the young buds, or rudiments of the leaves, of the black poplar tree, have a ſtrong fragrant ſmell, approaching to that of ſtorax; but by the time that the leaves have come to their full growth, their fragrance is exhauſted.

Herbs are directed by moſt of the pharmaceutic writers to be dried in the ſhade; a rule which appears to be very juſt, though it has ſometimes been miſunderſtood. They are not to be excluded from the ſun's *heat*, but from the ſtrong action of the ſolar *light*; by which laſt their colours are more liable to be altered or deſtroyed, than thoſe of roots. Slow drying of them in a cool place is far from being of any advantage: both their colours and virtues are preſerved in greateſt perfection when they are dried haſtily by the heat of common fire as great as that which the ſun can impart: the juicy ones, in particular, require to be dried by heat, being otherwiſe ſubject to turn black. Odoriferous herbs, dried by fire till they become friable, diſcover indeed, in this arid ſtate, very little ſmell; not that the odorous matter is diſſipated, but on account of its not being communicated from the perfectly dry ſubject to dry air; for as ſoon as a watery vehicle is ſupplied, whether by infuſing the plant in water, or by expoſing it for a little time to a moiſt air, the odorous parts begin to be extracted by virtue of the aqueous moiſture, and diſcover themſelves in their full force.

Of the uſe of heat in the drying of plants, we have an inſtance in the treatment of tea among the Chineſe. According to the accounts of travellers, the leaves, as ſoon as gathered, are brought into an apartment furniſhed with a number of little furnaces, or ſtoves, each of which is covered with a clean ſmooth iron plate; the leaves are ſpread on the plates, and kept rolling with the hands till they begin to curl up about the edges; they

they are then immediately swept off on tables, on which one person continues to roll them, while another fans them that they may cool hastily: this process is repeated two or three times, or oftener, according as the leaves are disposed to unbend on standing.

Exsiccation of Herbs and Flowers.

Herbs and flowers are to be dried by the gentle heat of a stove or common fire, and only in that quantity at a time by which the exsiccation may be very soon finished. By this means their strength is best preserved; and this is indicated in proportion as they retain their native colour.

But the leaves of hemlock, and some other herbs replete with a subtile volatile matter, are to be powdered immediately after the exsiccation, and preserved in glass-vessels, well shut.

Flowers.

Flowers are to be gathered when moderately expanded, on a clear dry day, before noon. Red roses are taken before they open, and the white heels clipped off and thrown away.

The quick drying, above recommended for the leaves of plants, is more particularly proper for flowers; in most of which both the colour and smell are more perishable than in leaves, and more subject to be impaired by slow exsiccation. Of the flowers which come fresh into the apothecaries hands, the only ones employed dry in the London Pharmacopœia are red roses; and these, in all the compositions in which they are used in a dry state, are expressly ordered to be dried hastily. One of the most valuable aromatics of European growth, saffron, is part of a flower, dried on paper on a kind of kiln, with a heat sufficient to make it sweat, taking care only not to endanger the scorching of it.

It may here be observed, that the virtues of flowers are confined to different parts of the flower in different plants. Saffron is a singular production growing at the end of the style or pistil. The active part of camomile flowers is the yellow disk, or button in the middle; that of lilies, roses, clove-july-flowers, violets, and many others, the petala or flower-leaves; while rosemary has little virtue in any of these parts, the fragrance admired in the flowers of this plant residing chiefly in the cups.

Seeds and Fruits.

Seeds should be collected when ripe and beginning to grow dry, before they fall off spontaneously. Fruits are also to be gathered when ripe, unless otherwise ordered.

Of the fruits whose collection comes under the notice of the apothecary, there are few which are used in an unripe state; the principal is the sloe, whose virtue as a mild astringent is much diminished by maturation. The fruit of the orange tree, raised in our gardens or green houses, is sometimes gathered in a state of much greater immaturity, soon after it is formed on the tree, before it has acquired its acid juice; at this time it proves an elegant aromatic bitter, nearly resembling what are called *Curassao oranges*, which appear to be no other than the same fruit gathered

at

at the ſame period in a warmer climate.

The rule for collecting ſeeds is more general than any of the others, all the officinal ſeeds being in their greateſt perfection at the time of their maturity. As ſeeds contain little watery moiſture, they require no other warmth for drying them than that of the temperate air in autumn; ſuch as abound with a groſs expreſſible oil, as thoſe commonly called the *cold ſeeds*, ſhould never be expoſed to any conſiderable heat; for this would haſten the rancidity, which, however carefully kept, they are very liable to contract. Seeds are beſt preſerved in their natural huſks or coverings, which ſhould be ſeparated only at the time of uſing; the huſk, or cortical part, ſerving to defend the ſeed from being injured by the air.

Woods and Barks.

The moſt proper ſeaſon for the felling of woods, or ſhaving off their barks, is generally the winter.

No woods of our own growth are now retained by the London or Edinburgh colleges. The only two which had formerly a place in the catalogues of ſimples were the juniper and the box; the firſt of which is never kept in the ſhops, or employed in practice: the other may be procured from the turner; and it is indifferent at what ſeaſon it has been cut down, being at all times ſufficiently fit for the only uſe to which it was applied, the yielding an empyreumatic oil by diſtillation in a ſtrong fire.

It may be doubted, whether barks are not generally more replete with medicinal matter in ſummer and ſpring than in winter. The barks of many trees are in ſummer ſo much loaded with reſin and gum, as to burſt ſpontaneouſly, and diſcharge the redundant quantity. It is ſaid that the bark of the oak anſwers beſt for the tanners at the time of the riſing of the ſap in ſpring: and as its uſe in tanning depends on the ſame aſtringent quality for which it is uſed in medicine, it ſhould ſeem to be alſo fitteſt for medicinal purpoſes in the ſpring. It may be obſerved likewiſe, that it is in this laſt ſeaſon that barks in general are moſt conveniently peeled off.

Animal Substances.

Animal ſubſtances are to be choſen in their moſt perfect ſtate, unleſs they be ordered otherwiſe.

Whatever virtues theſe bodies may have, they are ſuppoſed to be beſt when they have attained to their common full growth.

A ſhort View of DIFFERENT ARRANGEMENTS *of the* MATERIA MEDICA.

IN the beginning of this part, in which the different articles of the materia medica are conſidered, we have aſſigned reaſons for giving the preference to the alphabetical mode of arrangement; but as other modes of arrangement alſo, though liable to greater objections, are not without ſome peculiar advantages, it may not be improper to ſubjoin a general view of ſome of thoſe plans of arrangement, which have either been followed by the moſt eminent writers on the materia medica, at different periods, or which ſeem to us to be of conſiderable utility in practice; not only as conjoining together articles which have nearly the ſame operative effects, ſuch as emetics, cathartics, or the like; but as ſubdividing theſe claſſes into ſuch inferior aſſociations as may lead the rational practitioner to the ſelection of that particular article which is beſt accommodated to the diſeaſe, or to the circumſtances of his patient.

The Arrangement of DIOSCORIDES, *as tranſlated into Latin from the original Greek, by* JANUS ANTONIUS SARACENUS.

1. De aromatibus, oleis, unguentis, arboribus, et naſcentibus ex eis liquoribus, lachrymis ac fructibus.
2. De animalibus, cerealibus, oleribus, et acrimonia præditis herbis.
3. De radicibus, ſuccis, herbis et ſeminibus, tum naturæ noſtræ familiaribus, tum etiam medicamentoſis.
4. De iis quæ reſtant herbis atque radicibus.
5. De vinis et iis quæ metallica dicuntur.

The Arrangement of STEPHANUS FRANCISCUS GEOFFROY, *in his* Tractatus de Materia Medica.

1. De foſſilibus.
2. De vegetabilibus exoticis.
3. De vegetabilibus indigenis.
4. De inſectis.
5. De piſcibus.
6. De amphibiis.
7. De avibus.
8. De quadrupedibus.
9. De homine.

The

The Arrangement of JOHN FREDERICK CARTHEUSER, *in his* Fundamenta Materiæ Medicæ.

1. De insipidis terreis et terro-gelatinosis.
2. De insipidis, et subdulcibus mucilaginèis et gelatinosis.
3. De dulcibus, subdulcibus, leniter amaricantibus austeriusculis, atque balsamicis unguinoso-oleosis et pinguibus.
4. De acidis et acidulo-dulcibus.
5. De salinis alcalicis, tam fixis quam volatilibus urinosis.
6. De salinis explicitis mediæ naturæ.
7. De austeris stypticis.
8. De dulcibus.
9. De acribus alterantibus.
10. De amaris et amaricantibus.
11. De acribus et amaris purgantibus, tam emeticis quam catharticis.
12. De vaparosis inebriantibus et narcoticis.
13. De balsamicis et aromaticis.
14. De amaricantibus, austeriusculis, blandis balsamicis, acriusculis, subdulcibus, terreo-aut mucilagineo-subadstringentibus, aliisque sapore mixto donatis.
15. De siccis sulphureis, mercurialibus, sulphureo-mercurialibus, sulphureo-regulinis, et metalicis, semimetallicis ac terreis martialibus.
16. De aqua simplici, aqua marina, et aquis medicatis mineralibus.

The Arrangement of DR MURRAY, *from his* Apparatus Medicaminum, tam Simplicium quam Præparatorum, et Compositorum, Vol. I, II, III, & IV.

1. Coniferæ.
2. Amentaceæ.
3. Compositæ.
4. Aggregatæ.
5. Conglomeratæ.
6. Umbellatæ.
7. Hederaceæ.
8. Sarmentaceæ.
9. Stellatæ.
10. Cymosæ.
11. Cucurbitaceæ.
12. Solanaceæ.
13. Campanaceæ.
14. Contortæ.
15. Rotaceæ.
16. Sepiariæ.
17. Bicornes.
18. Asperifoliæ.
19. Verticillatæ.
20. Personatæ.
21. Rhœades.
22. Putamineæ.
23. Siliquosæ.
24. Papilonaceæ.
25. Lomentaceæ.
26. Multisiliquæ.
27. Senticosæ.
28. Pomaceæ.
29. Hesperideæ.
30. Succulentæ.
31. Columniferæ.
32. Gruinales.
33. Caryophylleæ.
34. Calycanthemæ.
35. Ascyroideæ.
36. Coadunatæ.
37. Dumosæ.
38. Trihilatæ.
39. Tricoccæ.
40. Oleraceæ.
41. Scabridæ.
42. Vepreculæ.

The Arrangement of DR CULLEN, *from his* Materia Medica.

MATERIÆ MEDICÆ TABULA GENERALIS,

In qua Medicamenta ad Capita quædam secundum indicationes morborum curatorias quibus respondent, referuntur.

MATERIA MEDICA constat ex

- NUTRIMENTIS quæ sunt,
  - *Cibi.*
  - *Potus.*
  - et quæ cum his assumuntur *Condimenta.*
- MEDICAMENTIS quæ agunt in
  - Solida.
    - Simplicia.
      - *Astringentia.*
      - *Tonica.*
      - *Emollientia.*
      - *Erodentia.*
    - Viva.
      - *Stimulantia.*
      - *Sedantia.*
        - *Narcotica.*
        - *Refrigerantia.*
        - *Antispasmodica.*
  - Fluida.
    - Immutantia.
      - Fluiditatem.
        - *Attenuantia.*
        - *Inspissantia.*
      - Misturam.
        - Acrimoniam corrigentia.
          - In genere
            - *Demulcentia.*
          - In specie
            - *Antacida.*
            - *Antalkalina.*
            - *Antiseptica.*
    - Evacuantia.
      - *Errhina.*
      - *Sialagoga.*
      - *Expectorantia.*
      - *Emetica.*
      - *Cathartica.*
      - *Diuretica.*
      - *Diaphoretica.*
      - *Menagoga.*

The Arrangement of Dr Home, *from his* Methodus Materiæ Medicæ.

Claſs 1. Auxilia adjicentia.
2. ——— evacuantia.
3. ——— alterantia fluida.
4. ——— alterantia ſolida.
5. ——— permutantia motus ſolidorum et fluidorum.

Claſs 6. Auxilia afficientia ſenſus.
7. ——— topica interna.
8. ——— expellentia vel deſtruentia corpora extranea.

The Arrangement of Dr Duncan, *from his* Heads of Lectures on the Materia Medica.

I. Emetica.
1. Irritantia.
2. Calefacientia.
3. Nauſeoſa.
4. Narcotica.

II. Cathartica.
1. Stimulantia.
2. Refrigerantia.
3. Reſtringentia.
4. Emollientia.
5. Narcotica.

III. Diaphoretica.
1. Calefacientia.
2. Stimulantia.
3. Pungentia.
4. Antiſpaſmodica.
5. Diluentia.

IV. Epispastica.
1. Rubefacientia.
2. Veſicantia.
3. Suppurantia.

V. Diuretica.
1. Stimulantia.
2. Refrigerantia.
3. Diluentia.
4. Narcotica.

VI. Expectorantia.
1. Stimulantia.
2. Nauſeoſa.
3. Antiſpaſmodica.
4. Irritantia.

VII. Errhina.
1. Sternutatoria.
2. Evacuantia.

VIII. Sialagoga.
1. Topica.
2. Interna.

IX. Emmenagoga.
1. Stimulantia.
2. Irritantia.
3. Tonica.
4. Antiſpaſmodica.

X. Anthelmintica.
1. Venenoſa.
2. Lubricantia.
3. Tonica.
4. Cathartica.

XI. Lithontriptica.
1. Antacida.
2. Reſtringentia.

XII. Antacida.
1. Eccoprotica.
2. Reſtringentia.

XIII. Antalkalina.
1. Refrigerantia.
2. Antiſceptica.

XIV. ATTENUANTIA,
1. Diluentia.
2. Solventia.

XV. INSPISSANTIA.
1. Farinosa.
2. Mucilaginosa.

XVI. ANTISCEPTICA.
1. Refrigerantia.
2. Tonica.
3. Stimulantia.
4. Antispasmodica.

XVII. ADSTRINGENTIA.
1. Styptica.
2. Corrigentia.
3. Tonica.

XVIII. EMOLLIENTIA.
1. Humectantia.
2. Laxantia.
3. Lubricantia.

XIX. CORROSIVA.
1. Erodentia.
2. Caustica.

XX. DEMULCENTIA.
1. Lenientia.
2. Diluentia.

XXI. STIMULANTIA.
1. Topica.
2. Diffusibilia.
3. Calefacientia.
4. Cardiaca.
5. Tonica.
6. Carminativa.

XXII. SEDATIVA.
1. Soporifica.
2. Narcotica.
3. Refrigerantia.

XXIII. ANTISPASMODICA.
1. Stimulantia.
2. Sedativa.
3. Tonica.

XXIV. SANGUINIS MISSIONES.
1. Generales.
2. Topicæ.

PART III.

Preparations and Compositions.

CHAP. I.

PREPARATIONES SIMPLICIORES.

THE MORE SIMPLE PREPARATIONS.

QUORANDUM in AQUA NON SOLUBILIUM PRÆPARATIO. *Lond.*

The preparation of some Substances not soluble in water.

POUND these substances first in a mortar; then, pouring on a little water, levigate them on a hard and polished, but not calcareous, stone, that they may be made as fine as possible. Dry this powder on blotting-paper laid on chalk, and set it in a warm, or at least a dry, place, for some days.

In this manner are to be prepared,

Amber,
Antimony,
Calamine,
Chalk,
Coral,
Oyster-shells, first cleansed from their impurities,
Tutty.

Crabs claws, first broken into small pieces, must be washed with boiling water before they be levigated.

Verdegris must be prepared in the same manner.

WHERE large quantities of the foregoing powders are to be prepared, it is customary, instead of the stone and mullet, to employ hand-mills made for this purpose, consisting of two stones; the uppermost of which turns horizontally on the lower, and has an aperture in the middle for supplying fresh matter, or of returning that which has already passed, till it be reduced to a proper degree of fineness.

For the levigation of hard bodies, particular care should be taken, whatever kind of instruments be used, that they be of sufficient hardness, otherwise they will be abraded by the powders. The hematites, a hard iron ore, is most conveniently levigated between two iron planes; for if the common levigating stones be used, the preparation, when finished, will contain almost as much foreign matter

ter from the instrument as the hematites.

It has been customary to moisten several powders in levigation, with rose, balm, and other distilled waters: these, nevertheless, have no advantage above common water, since in the subsequent exsiccation they must necessarily exhale, leaving the medicine possessed of no other virtue than what might be equally expected from it when prepared with the cheaper element.

Some few substances, indeed, are more advantageously levigated with spirit of wine than with water. Thus bezoar has the green colour usually expected in this costly preparation, considerably improved thereby. A little spirit may be added to the other animal substances, if the weather be very hot, and large quantities of them are prepared at once, to prevent their running into putrefaction; an accident which, in those circumstances, sometimes happens when they are levigated with water only. Crabs-eyes, which abound with animal gelatinous matter, are particularly liable to this inconvenience.

The caution given above for reducing antimony, calamine, and tutty, to the greatest subtility possible, demands particular attention. The tenderness of the parts to which the two last are usually applied, requires them to be perfectly free from any admixture of gross irritating particles. The first, when not thoroughly comminuated, might not only, by its sharp needle-like spicula, wound the stomach, but likewise answers little valuable purpose as a medicine, proving either an useless load upon the viscera, or at best passing off without any other sensible effect than an increase of the grosser evacuations; while, if reduced to a great degree of fineness, it turns out a medicine of considerable efficacy.

The most successful method of obtaining these powders of the requisite tenuity, is, to wash off the finer parts by means of water, and continue levigating the remainder till the whole become fine enough to remain for some time suspended in the fluid; this process is received in the Edinburgh pharmacopœia, and there directed in the preparation of the following article.

ANTIMONIUM PRÆPARATUM.

Edinburgh.

Prepared Antimony.

Let the antimony be first pounded in an iron mortar, and then levigated on a porphyry with a little water. After this, put it into a large vessel, and pour a quantity of water on it. Let the vessel be repeatedly shaken, that the finer part of the powder may be diffused through the water; the liquor is then to be poured off, and set by till the powder settles. The gross part, which the water would not take up, is to be further levigated, and treated in the same manner.

By this method, which is that commonly practised in the preparation of colours for the painter, powders may be obtained of any required degree of tenuity; and without the least mixture of the gross parts, which are always found to remain in them after long continued levigation; all the coarser matter settles at first, and the finer powder continues suspended in the water, longer and longer, in proportion to the degree of its fineness. The same process may likewise be advantageously applied to other hard pulverisable bodies of the mineral kingdom, or artificial preparations of them; provided they be not soluble in, or specifically lighter than water. The animal and absorbent

ſorbent powders, crabs-claws, crabs-eyes, oyſter-ſhells, egg-ſhells, chalk, pearl, coral, and bezoar, are not well adapted to this treatment; nor indeed do they require it. Theſe ſubſtances are readily ſoluble in acid juices without much comminution: if no acid be contained in the firſt paſſages, they are apt to concrete, with the mucous matter uſually lodged there, into hard indiſſoluble maſſes; the greater degree of fineneſs they are reduced to, the more they are diſpoſed to form ſuch concretions, and become liable to obſtruct the orifices of the ſmall veſſels.

CALAMINARIS LAPIS PRÆPARATUS.

Edin.

Prepared Calamine.

Calamine previouſly calcined for the uſe of thoſe who make braſs, is to be treated in the ſame manner as antimony.

CRETA PRÆPARATA.

Edin.

Prepared Chalk.

Chalk firſt triturated and then frequently waſhed with water, till it imparts to it neither taſte nor colour, is to be treated in the ſame manner as antimony.

As calamine is intended for external application, and often to parts very eaſily irritated, too much pains cannot be beſtowed in reducing it to a fine powder; and the frequent waſhing of the chalk may have the effect of freeing it from ſome foreign matters: But with regard to this ſubſtance, the after part of the proceſs, if not improper, is, in our opinion at leaſt, unneceſſary: and this obſervation may alſo be made with reſpect to the oculi, or more properly lapilli cancrorum, which the Edinburgh college direct to be treated in the ſame manner.

ADIPIS SUILLÆ, SEVIQUE OVILLI PRÆPARATIO.

Lond.

The preparation of hog's lard and mutton ſuet.

Cut them into pieces, and melt them over a ſlow fire; then ſeparate them from the membranes by ſtraining.

These articles had formerly a place alſo among the preparations of the Edinburgh college. But now they introduce them only into their liſt of the materia medica; as the apothecary will in general find it more for his intereſt to purchaſe them thus prepared, than to prepare them for himſelf: for the proceſs requires to be very cautiouſly conducted, to prevent the fat from burning or turning black.

AMMONIACI GUMMI PURIFICATIO.

The purification of gum ammoniacum.

Lond.

If gum ammoniac do not ſeem to be pure, boil it in water till it become ſoft; then ſqueeze it thro' a canvas bag, by means of a preſs. Let it remain at reſt till the reſinous part ſubſide; then evaporate the water; and toward the end of the evaporation reſtore the reſinous part, mixing it with the gummy.

In the ſame manner are purified aſſafœtida and ſuch like gum-reſins.

You may alſo purify any gum which melts eaſily, ſuch as Galbanum, by putting it in an ox-bladder, and holding it in boiling water till it be ſo ſoft that it can be ſeparated from its impurities by preſſing through a coarſe linen cloth.

In ſtraining all the gums care ſhould be taken that the heat be neither great, nor long continued; otherwiſe a conſiderable portion

tion of their more active volatile matter will be loſt; an inconvenience, which cannot, by any care, be wholly avoided. Hence the purer tears, unſtrained, are in general to be preferred, for internal uſe, to the ſtrained gums.

As an additional reaſon for this preference, we may add, that ſome of the gum-reſins, purified in the common way, by ſolution in water, expreſſion, and evaporation, are not ſo eaſily ſoluble in aqueous menſtrua after, as before, ſuch depuration. On theſe accounts this proceſs is entirely omitted by the Edinburgh college; and in every caſe where a gummy-reſinous ſubſtance, before it be taken, is to be diſſolved in water, it may be as effectually freed from impurities at the time of ſolution as by this proceſs. And when it is to be employed in a ſolid ſtate, care ſhould be taken that the purer parts alone be ſelected.

CORNU CERVI USTIO.

The burning of hartſhorn.

Lond.

Burn pieces of hartſhorn till they become perfectly white; then reduce them to a very fine powder.

The pieces of horn generally employed in this operation are thoſe left after diſtillation.

In the burning of hartſhorn, a ſtrong fire and the free admiſſion of air are neceſſary. The potter's furnace was formerly directed for the ſake of convenience; but any common furnace or ſtove will do. If ſome lighted charcoal be ſpread on the bottom of the grate, and above this the pieces of the horns are laid, they will be burnt to whiteneſs, ſtill retaining their original form.

Burnt hartſhorn is not now conſidered as a pure earth, having been found to be a compound of calcareous earth and phoſphoric acid. It is the weakeſt of the animal abſorbents, and is difficultly ſoluble in acids; but whether it be of equal or ſuperior uſe in diarrhœas to more powerful abſorbents, muſt be left to obſervation.

HERBARUM et FLORUM EXSICCATIO.

The drying of herbs and flowers.

Lond.

Let theſe, ſpread out lightly, be dried by a gentle heat.

Edin.

Herbs and flowers muſt be dried by a gentle heat, from a ſtove or common fire. They muſt be taken in ſuch quantities at a time, that the proceſs will be ſpeedily finiſhed; for by this means their medical powers are beſt preſerved. The moſt certain teſt of this is the perfect preſervation of the natural colour: but the leaves of cicuta, and of other plants containing a volatile matter, muſt be immediately pounded, after being dried, and afterwards kept in a phial with a ground ſtopper.

The directions given by the London college are here leſs explicit, and perhaps leſs proper than thoſe of the Edinburgh college: for there can be no doubt of the propriety of drying theſe ſubſtances haſtily, by the aid of artificial heat, rather than by the heat of the ſun. In the application of artificial heat, the only caution requiſite is to avoid burning; and of this a ſufficient teſt is afforded by the preſervation of colour. And the direction given with regard to cicuta may perhaps with advantage be fol-

followed with moſt of the other flowers and herbs, afterwards to be exhibited in powder.

MELLIS DESPUMATIO.

Lond.

The purifying of honey.

Melt the honey by the heat of a water bath, and remove the ſcum.

The intention of this proceſs is to purify the honey from wax, or other droſſy matters that have been united with it by the violence of the preſs in its ſeparation from the comb, and from meal and ſuch like ſubſtances, which are ſometimes fraudulently mixed with it. When the honey is rendered liquid and thin by the heat, theſe lighter matters riſe freely to the ſurface.

This preparation is not ſo neceſſary for honey that is to be uſed as an article of diet as for that which is employed in the preparation of oxymels; hence the Edinburgh college, who have rejected all the oxymels, have omitted this proceſs.

MILLEPEDÆ PRÆPARATIO.

Lond.

The preparation of millipeds.

Millepedæ præparatæ. Edin.

The millepedes are to be incloſed in a thin canvas cloth, and ſuſpended over hot proof ſpirit in a cloſe veſſel, till they be killed by the ſteam, and rendered friable.

This is a convenient way of rendering millepedes pulveriſable, without endangering any loſs of ſuch virtues as they may poſſeſs.

The directions given by both colleges are preciſely the ſame, and delivered in almoſt the ſame words.

PULPARUM EXTRACTIO.

Lond. Edin.

The extraction of pulps.

Unripe pulpy fruits, and ripe ones if they be dry, are to be boiled in a ſmall quantity of water until they become ſoft: then preſs out the pulp through a ſtrong hair ſieve, and afterwards boil it down to the conſiſtence of honey in an earthen veſſel, over a gentle fire; taking care to keep the matter continually ſtirring, to prevent its burning.

The pulp of caſſia fiſtularis is in like manner to be boiled out from the bruiſed pod, and reduced afterwards to a proper conſiſtence, by evaporating the water.

The pulps of fruits that are both ripe and freſh, are to be preſſed out through the ſieve, without any previous boiling.

In the extraction of pulps, the direction of both colleges ſo nearly agree, that it is unneceſſary to give a ſeparate tranſlation of each. We may only obſerve, that the London college, inſtead of ſoftening the fruits by boiling them in a ſmall quantity of water, direct them to be put in a moiſt place. This direction, though proper in ſome caſes, is not generally the moſt ſuitable.

SCILLÆ EXSICCATIO.

Lond. Edin.

The drying of ſquills.

Let the ſquill, cleared from its outer ſkin, be cut tranſverſely into thin ſlices, and dried with a very gentle heat. When properly managed, the ſquill is friable, and retains its bitterneſs and acrimony.

By this method the ſquill dries much ſooner than when its ſeveral coats are only ſeparated, as has been uſually directed; the internal part is here laid bare, but, in each of the entire coats, it is covered with a thin ſkin, which impedes the exhalation of the moiſture. The root loſes in this proceſs four fifths of its original weight; the parts which exhale appear to be merely watery: ſix grains of the dry root being equivalent to half a dram of the freſh; a circumſtance to be particularly regarded in the exhibition of this medicine. In the preceding editions of our pharmacopœias, a particular caution was given, not to uſe an iron knife for cutting ſquills, but one of wood, ivory, or bone: the reaſon of this caution is ſaid to be, not ſo much that the ſquill would receive any ill qualities from the iron; as, that its acrid juice, adhering to the knife, might render a wound received by it extremely painful, or even dangerous: but no danger is to be apprehended from ſuch an accident, the direction appears unneceſſary. Dried ſquills furniſh us with a medicine, ſometimes advantageouſly employed as an emetic, often as an expectorant, but ſtill more frequently as a powerful diuretic.

SPONGIÆ USTIO.

Lond.

The burning of ſponge.

Beat the ſponge, after cutting it in pieces; and, when ſeparated from its gritty matter, burn it in a cloſe iron veſſel, until it becomes black and friable; afterwards rub it to a very fine powder.

Edin.

Put the ſponge, cut into ſmall pieces, and well freed from adhering earthy matters, into a cloſe earthen veſſel. Place it on the fire, and let it be ſtirred frequently till it become black and friable; then reduce it to a powder in a glaſs or marble mortar.

This medicine has been in uſe for a conſiderable time, and employed againſt ſcrophulous diſorders and cutaneous foulneſſes, in doſes of a ſcruple and upwards. Its virtues ſeem to depend on a volatile ſalt juſt formed, and combined with its own oil. If the ſponge be diſtilled with a ſtrong heat, it yields a large proportion of that ſalt in its proper form. The ſalt is in this preparation ſo far extricated, that if the burnt ſponge be ground in a braſs mortar, it corrodes the metal, ſo as to contract a diſagreeable taint, and ſometimes an emetic quality.

Bees, earthworms, and other animal ſubſtances, have by ſome been prepared in the ſame manner, and recommended in different diſeaſes: but as theſe ſubſtances fall much ſhort of ſponge in the quantity of volatile ſalt producible from them by fire, they are probably inferior alſo in medicinal efficacy. Of all the animal matters that have been tried, raw ſilk is the only one which exceeds, or equals ſponge, in the produce of ſalt.

A good deal of addreſs is requiſite for managing this proceſs in perfection. The ſponge ſhould be cut ſmall, and beaten for ſome time in a mortar, that all the ſtony matters may be got out, which compared with the weight of the ſponge when prepared, will ſometimes amount to a conſiderable quantity. The burning ſhould be diſcontinued as ſoon as the matter is become thoroughly black. If the quantity put into the veſſel at once be large, the outſide will be ſufficiently burnt before the inſide be affected; and the volatile ſalt of the former will

in

in part eſcape, before that in the latter is begun to be formed. The beſt method of avoiding this inconvenience ſeems to be, to keep the ſponge continually ſtirring, in ſuch a machine as is uſed for the roaſting of coffee.

And from this circumſtance the iron veſſel directed by the London college is preferable to the earthen one directed by that of Edinburgh. But the pounding in a glaſs or marble mortar, directed by the latter, is a neceſſary caution which the former college have omitted.

STYRACIS PURIFICATIO.

Lond.

The purification of ſtorax.

Diſſolve the ſtorax in rectified ſpirit of wine, and ſtrain the ſolution: afterwards reduce it to a proper thickneſs with a gentle heat.

STORAX was formerly directed to be purified by means of water; hence it was ſtyled *ſtyracis collatio*: but the method now adopted is much preferable, for the active parts of the ſtorax totally diſſolve in ſpirit of wine, the impurities alone being left. And as theſe active parts do not riſe in diſtillation, the ſpirit may be again recovered by diſtillation.

FERRI LIMATURA PURIFICATA.

Edin.

Purified filings of iron.

Apply a magnet to a ſieve placed on filings of iron, ſo that the filings may be attracted upwards through the ſieve.

FERRI RUBIGO, vulgo FERRI LIMATURA PRÆPARATA.

Ruſt of iron, commonly called *ſhavings of iron, prepared.*

Set purified filings of iron in a moiſt place, that they may turn to ruſt, which is to be ground into an impalpable powder.

THE cleanſing of iron filings by means of a magnet is very tedious, and does not anſwer ſo well as might be expected; for if they are ruſty, they will not be attracted by it, or not ſufficiently: nor will they by this means be entirely freed from braſs, copper, or other metallic ſubſtances which may adhere to them. It appears from the experiments of Henckel, that if iron be mixed by fuſion with even its own weight of any of the other metals, regulus of antimony alone excepted, the compound will be vigorouſly attracted by the loadſtone.—The ruſt of iron is to be procured at a moderate rate from the dealers in iron, free from any impurities, except ſuch as may be waſhed off by water.

The ruſt of iron is by ſome preferred as a medicine to the calces, or croci, made by a ſtrong fire. Hoffman relates, that he has frequently given it with remarkable ſucceſs in obſtinate chlorotic caſes accompanied with exceſſive headachs and other violent ſymptoms; and that he uſually joined with it pimpinella, arum root, and ſalt of tartar, with a little cinnamon and ſugar. The doſe is from four or five grains to twenty or thirty; ſome have gone as far as a dram: but all the preparations of this metal anſwer beſt in ſmall doſes, which ſhould rather be often repeated than enlarged.

FERRI SQUAMÆ PURIFICATÆ.

Edin.

Scales of iron purified.

Let the ſcales of iron, which may be had at the anvils of the workmen, be purified by the magnet; for the magnet only attracts the

smaller and purer parts, leaving the more thick and impure behind.

THIS is, perhaps, of all the forms the most eligible for obtaining the pure matter in such a divided state as to render it easily acted on by different menstrua; and the mode of purification here proposed is not only very effectual, but also very easily put into practice.

MUCILAGINUM EXTRACTIO.
Gm.

The extraction of mucilage.
Boil the gums or mucilaginous seeds in a sufficient quantity of water, till it becomes viscid, nearly resembling the white of an egg; and then strain it by pressure through a linen cloth.

BY this means vegetable mucilage may be easily obtained from many different substances in its pure state. And although this process is not directed in our pharmacopœias, yet we think that it might with advantage be adopted.

CHAP. II.

CONSERVÆ.

CONSERVES.

CONSERVES are compositions of recent vegetable matters and sugar, beaten together into an uniform mass.

This management is introduced for preserving certain simples, undried in an agreeable form, with as little alteration as possible in their native virtues; and to some subjects it is very advantageously applied. Vegetables, whose virtues are lost or destroyed by drying, may in this form be kept uninjured for a length of time: for, by carefully securing the mouth of the containing vessel, the alteration, as well as dissipation, of their active principles, is generally prevented; and the sugar preserves them from the corruption which juicy vegetables would otherwise undergo.

There are, however, sundry vegetables whose virtues are impaired by this treatment. Mucilaginous substances, by long lying with sugar, become less glutinous; and astringents become sensibly softer on the palate. Many of the fragrant flowers are of so tender and delicate a texture, as almost entirely to lose their peculiar qualities on being beaten or bruised.

In general, it is obvious, that in this form, on account of the large admixture of sugar, substances of considerable activity can alone be taken to advantage as medicines. And, indeed, conserves are at present considered chiefly as auxiliaries to medicines of greater efficacy, or as intermedia for joining them together. They are very convenient for

for reducing into boluſes or pills the more ponderous powders, as mercurius dulcis, the calces of iron, and other mineral preparations; which, with liquid or leſs conſiſtent matters, as ſyrups, will not cohere.

The ſhops were formerly encumbered with many conſerves altogether inſignificant; the few now retained have in general either an agreeable flavour to recommend them, or are capable of anſwering ſome uſeful purpoſes as medicines. Their common doſe is the bulk of a nutmeg, or as much as can be taken up at once or twice upon the point of a knife. There is in general no great danger of exceeding in this particular.

CONSERVÆ *Lond.*

LUJULÆ,
Of wood ſorrel;
ABSINTHII MARITIMI,
Of ſea wormwood;
ROSÆ RUBRÆ,
Of the red roſe;
CORTICIS EXTERIORIS AURANTII HISPALENSIS;
Of the outer rind of the Seville orange.

Pluck the leaves from the ſtalks, the unblown petals from the cups, taking off the heels. Take off the outer rind of the oranges by a grater; then beat each of them with a wooden peſtle in a marble mortar, firſt by themſelves, afterwards with three times their weight of double refined ſugar, until they be mixed.

CONSERVÆ *Edinb.*

MENTHÆ SATIVÆ FOLIORUM RECENTIUM,
Of the freſh leaves of mint;
ROSARUM RUBRARUM NONDUM EXPLICATARUM;
Of red roſes not blown.
AURANTIORUM HISPALENSIUM CORTICIS EXTERIORIS RECENTIS RADULA ABRASI.
Of the outer rind of Seville oranges raſped off by a grater.

Theſe are directed to be prepared with triple their weight of ſugar in the ſame manner as the conſerves of the London college. The ſugar ſhould be pounded by itſelf, and paſſed through a ſieve before it be mixed with the vegetable maſs, for without this it cannot be properly incorporated. Roſe buds, and ſome other vegetables, are prepared for mixing with ſugar by a ſmall wooden mill contrived for that purpoſe.

In the ſame manner conſerves may be prepared from many other vegetables. But beſides the conſerves for which general directions are given, there are others, for which, either on account of the particular mode of preparation, or of the proportion, our pharmacopœias have thought it neceſſary to give particular directions. But before taking notice of theſe, it is neceſſary to mention the medical properties of the conſerves above enumerated.

CONSERVA foliorum LUJULÆ.
Lond.
Conſerve of the leaves of wood-ſorrel.

This is a very elegant and grateful conſerve; in taſte it is lightly acidulous, with a peculiar flavour, which ſome compare to that of green-tea. It is taken occaſionally for quenching thirſt, and cooling the mouth and fauces, in diſtempers where the heat of the body is much increaſed.

CONSERVA ſummitatum ABSINTHII maritimi, *Lond.*

Con-

Conserve of the tops of sea wormwood.

The conserve of wormwood has been celebrated in dropsies: Matthiolus relates, that several persons were cured by it of that distemper without the assistance of any other medicine. Where the disorder indeed proceeds from a simple laxity or flaccidity of the solids, the continued use of this medicine may be of some service; as it appears to be an elegant mild corroborant. It is directed to be given in the dose of half an ounce about three hours before meals.

CONSERVA florum ROSARUM rubrarum immaturarum.
Lond. Edinb.
Conserve of the buds of red roses.

This is a very agreeable and useful conserve. A dram or two dissolved in warm milk, are frequently given as a light restringent, in weakness of the stomach, and likewise in coughs and phthisical complaints. In the German ephemerides, examples are related of very dangerous phthisis cured by the continued use of this medicine: in one of these cases, twenty pounds of the conserve were taken in the space of a month; and in another, upwards of thirty. Riverius mentions several other instances of this kind. There is, however, much room for fallacy in such observations; as phthisis has not at all times been accurately distinguished from obstinate catarrhs, and some other affections: the antiseptic property of the sugar may perhaps have some share in the effect.

CONSERVA flavedinis CORTICUM AURANTIORUM.
Hispalensium.
Lond. Edinb.
Conserve of the yellow rind of Seville orange peel.

This conserve is a very elegant one, containing all the virtues of the peel in a form sufficiently agreeable, both with regard to the dose and the conveniency of taking. It is a pleasant warm stomachic; and with this intention is frequently used.

CONSERVA foliorum MENTHÆ vulgaris.
Edinb.
Conserve of the leaves of spearmint.

The conserve of mint retains the taste and virtues of the herb. It is given in weakness of the stomach and retchings to vomit: and frequently does service in some cases of this kind, where the warmer and more active preparations of mint would be less proper.

CONSERVA ARI.
Conserve of arum.
Take of
The fresh root of arum bruised, half a pound;
Double refined sugar, a pound and a half;
Beat them together in a mortar.

The root of arum, in its recent state, is a substance of great activity; but this activity is almost entirely lost on drying. Hence the compound powder which had formerly a place in our pharmacopœas is now rejected. And as neither water nor spirit extract its activity, this conserve is perhaps the best form in which it can be preserved in our shops. It may be given to adults in doses of a dram.

CONSER-

CONSERVA CYNOSBATI.

Lond.

Conserve of hips.

Take of

Pulp of ripe hips one pound;
Double-refined sugar, powdered, twenty ounces.

Mix them into a conserve.

The conserve of hips is of some esteem as a soft cooling restringent; three or four drams or more are given at a time, in bilious fluxes, sharpness of urine, and hot indispositions of the stomach: A good deal of care is requisite on the part of the apothecary in making this conserve: the pulp is apt to carry with it some of the prickly fibres, with which the inside of the fruit is lined: if these be retained in the conserve, they will irritate the stomach, so as to occasion vomiting.

CONSERVA PRUNI SYLVESTRIS.

Lond. Edinb.

Conserve of sloes.

Put the sloes in water upon the fire that they may soften, taking care that they be not broken; then, the sloes being taken out of the water, press out the pulp, and mix it with three times its weight of double-refined sugar into a conserve.

This preparation is a gentle astringent, and may be given as such in the dose of two or three drams. The degree of its astringency will vary according to the maturity of the sloes, and the length of time for which the conserve has been kept.

CONSERVA SCILLÆ.

Conserve of squills.

Take of

Fresh squills, one ounce;
Double-refined sugar five ounces.

Beat them together in a mortar, into a conserve.

This conserve is directed to be prepared in a small quantity, to guard against its varying in strength. It may be given, to adults, from half a dram to two scruples, especially when fresh.

But the conserve of squills is a more uncertain, and less agreeable mode of exhibiting this article, than the powder of the dried root, particularly when made into pills, or given in the form of bolus with any other conserve.

CONSERVA FOLIORUM CEREFOLII.

Suec.

Conserve of chervil.

Take of

Fresh leaves of chervil,
Double-refined sugar, each equal parts.

Beat them together into a conserve.

Chervil has by some been extolled as an useful diuretic; and this is perhaps one of the most pleasant forms under which it can be exhibited.

CONSERVA MILLEPEDARUM.

Brun.

Conserve of millepedes.

Take of

Live millepeds one pound;
Double-refined sugar, two pounds and an half.

Beat them together into a conserve.

If the millepeds possess those virtues which some have alleged, this is perhaps one of the best forms under which they can be exhibited. And by children, to whom they are

are frequently prescribed, it may be easily taken, when other forms cannot be introduced.

CONSERVA ROSARUM VITRIOLATA. *Brun.*

Vitriolated conserve of roses.

To each pound of the conserve of roses add two drams of the diluted vitriolic acid.

This may be in some cases an useful means of increasing somewhat the astringency of the conserve of roses: But for these purposes for which the vitriolic acid is in general employed, the quantity that can thus be introduced is too inconsiderable to be of much service.

CHAP. III.

SUCCI.

JUICES.

JUICES are obtained from the succulent parts of plants, by including them, after being properly cut, bruised, &c. in a hair bag, and pressing them, between wooden cheeks, in the common screw-press, as long as any liquor exsudes.

The harder fruits require to be previously well beaten or ground; but herbs are to be only moderately bruised, for if these are over bruised, a large quantity of the herbaceous matter will be forced out along with the juice. Hempen or woollen bags are apt to communicate a disagreeable flavour; the threads of these likewise swell in proportion as they imbibe moisture, so as in great measure to prevent the free percolation of the juice.

The fluids thus extracted from succulent fruits, both of the acid and sweet kind, from most of the acrid herbs, as scurvy-grass and water-cresses, from the acid herbs, as sorrel and wood-sorrel, from the aperient lactescent plants, as dandelion and hawkweed, and from sundry other vegetables, contain great part of the peculiar taste and virtues of the respective subjects. The juices, on the other hand, extracted from most of the aromatic herbs, as those of mint and the fragrant Turkey balm, commonly called *balm of Gilead*, have scarcely any thing of the flavour of the plants, and seem to differ little from decoctions of them made in water boiled till the volatile odorous parts have been dissipated. Many of the odoriferous flowers, as the lily, violet, hyacynth, not only impart nothing of their fragrance to their juice, but have it totally destroyed by the previous bruising. From want of sufficient attention to these particulars, practitioners have been frequently deceived in the effects of preparations of this class: juice of mint has been often prescribed as a stomachic, tho' it wants those quali-

ties by which mint itſelf and its other preparations operate,

The juices, thus forcibly preſſed out from plants, differ from thoſe which flow ſpontaneouſly, or from inciſions; theſe laſt conſiſting chiefly of ſuch fluids as are not diffuſed through the whole ſubſtance of the vegetable ſubject, but elaborated in diſtinct veſſels, or ſecreted into particular receptacles. From poppy heads, ſlightly wounded, there iſſues a thick milky liquor, which dries by a moderate warmth into opium; whilſt the juice obtained from them by preſſure is of a dark-green colour, and far weaker virtue.

Juices newly expreſſed are generally thick, viſcid, and very impure: By colature, a quantity of groſs matter is ſeparated, the juice becomes thinner, limpid, and better fitted for medicinal purpoſes, tho' as yet not entirely pure: on ſtanding, it becomes again turbid, and apt to run into a fermentative or putrefactive ſtate. Clarification with whites of eggs renders the juices more perfectly fine; but there are few that will bear this treatment without a manifeſt injury to their flavour, taſte, and virtue.

The moſt effectual method of purifying and preſerving theſe liquors, is to let the ſtrained juices ſtand in a cool place till they have depoſited their groſſer feces, and then gently paſs them ſeveral times thro' a fine ſtrainer till perfectly clear; when about a fortieth part of their weight of good ſpirit of wine may be added, and the whole ſuffered to ſtand as before: a freſh ſediment will now be depoſited, from which the liquor is to be poured off, ſtrained again, and put into ſmall bottles which have been waſhed with ſpirit and dried. A little oil is to be poured on the ſurface, ſo as very nearly to fill the bottles, and the mouths cloſed with leather, paper, or ſtopped with ſtraw, as the flaſks in which florence wine is brought to us: this ſerves to keep out duſt, and ſuffers the air, which in proceſs of time ariſes from all vegetable liquors, to eſcape; which air would otherwiſe endanger the burſting of the bottles; or, being imbibed afreſh, render their contents vapid and foul. The bottles are to be kept on the bottom of a good cellar or vault, placed up to the necks in ſand. By this method ſome juices may be preſerved for a year or two; and others for a much longer time.

It has already been obſerved, that there are great differences in juices, in regard to their being accompanied in the expreſſion with the virtues of the ſubjects. There are equal differences in regard to their preſerving thoſe virtues, and this independently of the volatility of the active matter, or its diſpoſition to exhale. Even the volatile virtue of ſcurvy graſs may by the above method be preſerved almoſt entire in its juice for a conſiderable time; while the active parts of the juice of the wild cucumber quickly ſeparate and ſettle to the bottom, leaving the fluid part inert. Juices of arum root, iris root, bryony root, and ſundry other vegetables, throw off in like manner their medicinal parts to the bottom.

SUCCUS COCHLEARIÆ COMPOSITUS.

Lond.

Compound juice of ſcurvy-graſs.

Take of

Juice of garden ſcurvy-graſs two pints;
Brook lime and
Water creſſes, of each one pint;
Seville oranges twenty ounces by meaſure,

Mix them, and, after the feces have subsided, pour off the liquor, or strain it.

SUCCI AD SCORBUTICOS. *Edinb.*

Take of
Juice of garden scurvy-grass,
Water cresses, both expressed from the fresh herbs;
Seville oranges, of each two pounds;
Spirituous nutmeg-water; half a pound.
Mix them, and let them stand till the feces have subsided, then pour off the clear liquor.

By this formula the Edinburgh college have rejected the brook-lime and the sugar of their former editions. The sugar was certainly a very improper addition; for though it may preserve dry vegetable matters, yet when added to juices largely impregnated with watery and mucilaginous matter, it would no doubt furnish that very principle most favourable to the production of the vinous fermentation. For the compound horse-radish water they have substituted the spirituous water of nutmegs: Besides that, this water has the same property of preserving the juices from fermentation; it is also much more agreeable to the palate, and will make the juices sit easier on the stomach.

The London college have retained nearly their former formula, giving it only a more proper name.

Both these compositions are of considerable use for the purposes expressed in the title; the orange juice is an excellent assistant to the scurvy-grass and other acrid antiscorbutics; which, when thus mixed, have been found from experience to produce much better effects than when employed by themselves. These juices may be taken from an ounce or two to a quarter of a pint, two or three times a day: they generally increase the urinary secretion, and sometimes induce a laxative habit. Preserved with the cautions above-mentioned, they will keep good for a considerable time; though, whatever care be taken, they are found to answer better when fresh; and from the difficulty of preserving them so, they have of late been very much laid aside, especially since we have been provided with more convenient and useful remedies.

Inspissated Juices.

When vegetable juices, or watery or spirituous decoctions or infusions, are exposed to a continued heat; the fluid gradually evaporating, carries off with it such volatile matters as it was impregnated with, and leaves the more fixed united together into one mass. The mass which remains from the evaporation of the expressed juice of a plant is called *inspissated juice*; from watery decoctions or infusions, an *extract*; from spirituous tinctures, a *resin*, or *essential extract*. The term *extract* is frequently used also as a general appellation of all the three kinds. Inspissated juices and watery decoctions, particularly the former, when evaporated no further than to the consistence of oil or honey, are called *robs*; and spirituous tinctures, reduced to a like consistence, are called *balsams*.

What relates to the expression of juices, has already been delivered, with the most effectual means of preserving them in their liquid state, and a general account of what substances do or do not give out their virtues with their juices. In the inspissation

ſpiſſation of juices there is further to be conſidered the volatility or fixity of their medicinal parts: if a plant loſes its virtue, or part of its virtue, in being dried, it is obvious that the juice muſt loſe as much in being inſpiſſated to dryneſs, how gentle ſoever the heat be with which the inſpiſſation is performed. It is likewiſe to be obſerved, that the medicinal parts of ſome juices are kept in a ſtate of perfect ſolution by the watery fluid, ſo as to be completely retained by it after the liquor has been made fine by ſettling, ſtraining, or other means; while the medicinal parts of others, not diſoluble by watery menſtrua, are only diffuſed thro' the liquor in the ſame manner as the feculencies are, and ſeparate along with theſe on ſtanding.

SUCCUS BACCÆ SAMBUCI SPISSATUS.

Lond.

Inſpiſſated juice of the elder-berry.

Take of

Expreſſed and depurated juice of elder-berries two pints

Inſpiſſate it in a water-bath, ſaturated with ſea-ſalt.

SUCCUS SPISSATUS BACCARUM SAMBUCI, vulgo ROB SAMBUCI.

Edinb.

Inſpiſſated juice, commonly called *rob, of elder berries.*

Take of

Juice of ripe elder-berries, five pounds;

Pureſt ſugar, one pound.

Evaporate with a gentle heat to the conſiſtence of pretty thick honey.

This preparation, made with or without ſugar, keeps well, and proves a medicine of conſiderable importance as an aperient, generally promoting the natural excretions by ſtool, urine, or ſweat. The doſe is from a dram to two to an ounce or more. A ſpoonful, diluted with water, is uſually taken in common colds at bed time.

SUCCUS SPISSATUS ACONITI.

Edinb.

Inſpiſſated juice of wolfsbane.

Bruiſe the freſh leaves of aconitum; and including them in a hempen bag, ſtrongly compreſs them in a preſs, ſo that they may give out their juice: let the juice be evaporated in open veſſels in a water bath, to the conſiſtence of pretty thick honey: An empyreuma is to be avoided by conſtantly ſtirring the mixture towards the end of the proceſs.

After the matter has become cold, let it be put up in glazed earthen veſſels, and moiſtened with rectified ſpirit of wine.

In the ſame manner are prepared inſpiſſated juices of

Belladonna, or deadly nightſhade, and

Hyoſcyamus, or henbane.

In theſe inſpiſſated juices, the active parts of the plant, are obtained in a concentrated ſtate, and in a condition which admits of preparation for a conſiderable length of time. They furniſh therefore a convenient form for exhibiting theſe articles which, in the practice of medicine, are perhaps more frequently uſed in the ſtate of inſpiſſated juice than any other. This is particularly the caſe with the hyoſcyamus, which may often be advantageouſly employed when opium is indicated, but diſagrees with the patient. But aconite and belladonna may

in general, with greater advantage, be exhibited under the form of powder made from the dried leaves.

We have already, in the history of the materia medica, expressed our surprise, that the London college have given no place to these articles. And we cannot help thinking, that their pharmacopœia would be enriched by introducing not only the articles themselves, but likewise these preparations, especially as they are not unfrequently prescribed by British practitioners.

Succus spissatus cicutæ. *Edin.*

Inspissated juice of hemlock.

Having expressed the juice of the leaves and stalks of hemlock when flowering, in the same manner as directed for that of the aconitum, evaporate it to the consistence of pretty thin honey; when it is cooled, add of the powder of the dried leaves of the plant as much as to make it into a mass fit for forming pills. Care, however, is to be taken, that the evaporation proceed only to such length, that as much of the powder can be mixed with the inspissated juice as shall make up about a fifth part of the whole mass.

A preparation similar to this was published at Vienna by Dr Stoerk, who recommends it as an efficacious resolvent in many obstinate disorders, where the common remedies avail nothing. He observes, that small doses should always be begun with, as two grains, made into a pill twice a day; and that by gradually increasing the dose, it may be given to two, three, or even four drams a-day, and continued in such quantities for several weeks: that it may be used in safety in infancy, old age, and pregnancy: that it neither accelerates nor disturbs the circulation; neither heats, nor cools, nor affects the animal functions: that it increases the secretions, and renders the mouth moist; seldom purges; very rarely vomits; sometimes augments perspiration; often produces a copious discharge of viscid urine; but in many patients does not increase any of the sensible evacuations; that it removes obstructions and their consequences; relieves rheumatic pains, tho' of long continuance; discusses scirrhous tumours, both internal and external; and cures dropsies and consumptions proceeding from scirrhosities: that it often dissolves cataracts, or stops their progress, and has sometimes removed the gutta serena: that inveterate cutaneous eruptions, scald heads, malignant ulcers, cancers, the malignant fluor albus and gonorrhœa of long standing, obstinate remains of the venereal disease, and caries of the bones, generally yield to it: that for the most part it is necessary to continue this medicine for a considerable time before the cure be effected, or much benefit perceived from it: that in some cases it failed of giving any relief; that he met with some persons who could not bear its effects; and that consequently there must be some latent difference in the habit, the diagnostic signs of which are at present unknown: that though it is by no means infallible any more than other medicines, yet the great number of deplorable cases that have been happily cured by it, is sufficient to recommend it to further trials. The efficacy of this medicine is confirmed by many eminent practitioners abroad; though the trials hitherto made of it in this country have not been attended with much success. Somewhat, perhaps, may depend on the time of the plant's being gathered, and the manner

manner of the preparation of the extract. Dr Stoerk himself takes notice of some mistakes committed in this respect: some have left the herb in a heap for several days, whence part of it withered, part rotted, and the juice became thick and mucilaginous; others have taken a very large quantity of the juice, and boiled it down in copper vessels with a great heat; by which means a strong fetor was diffused to a considerable distance, and the most efficacious parts dissipated: others, with officious care, have clarified the juice, and thus obtained a black tenacious extract, retaining but a small degree of the specific smell of the plant. The extract, duly prepared, according to the above prescription, is of a greenish brown colour, and a very disagreeable smell, like that of mice. But though there be reason to believe that much of the extract used here had been ill prepared, we can by no means admit that its general inefficacy was owing to this cause; for though there are not many instances of its discovering any valuable medicinal powers, there are several of its having activity enough even in small doses, to produce alarming symptoms.

Modern practice, however, seems to hold a middle place; being neither influenced by the extravagant encomiums of Dr Stoerk, nor frightened by the wary suspicions of Dr Lewis. The inspissated juice of the hemlock is accordingly given with freedom in a great variety of complaints, without our experiencing the wonderful effects ascribed to it by the former, or the baneful consequences dreaded by the latter. Like other preparations of this valuable herb, it is no doubt a very useful addition to our pharmacopœia; nor does its use seem to be more hazardous than that of opium and some other narcotics.

The London college direct the inspissated juice of cicuta be prepared in the same manner as that of the elder-berry, and without the addition of any of the powder. This is the most pure extract, and the powder may easily be occasionally added. They direct the cicuta to be collected as soon as the flowers appear: And at that time the leaves are most fully impregnated with their active powers.

SUCCUS SPISSATUS RIBIS NIGRI.

Lond.

Inspissated juice of black currants.

SUCCUS SPISSATUS LIMONIS.

Lond.

Inspissated juice of lemons.

These two the London college also direct to be prepared in the same manner with the elder-berry juice. And under this form the agreeable and useful acid of these vegetables, in a concentrated state, may be preserved for a considerable length of time.

CHAP.

CHAP. IV.

EXTRACTA ET *RESINÆ.*

EXTRACTS AND RESINS.

Obſervations on Extracts with Water.

THESE extracts are prepared by boiling the ſubject in water, and evaporating the ſtrained decoction to a thick conſiſtence.

This proceſs affords us ſome of the more active parts of the plants, free from the uſeleſs indiſſoluble earthy matter, which makes the largeſt ſhare of their bulk. There is a great difference in vegetable ſubſtances, with regard to their fitneſs for this operation; ſome yielding to it all its virtues, and others ſcarce any. Thoſe parts in which the ſweet, glutinous, emollient, cooling, bitter, auſtere, aſtringent virtues reſide, are for the moſt part totally extracted by the boiling water, and remain almoſt entire on evaporating it: whilſt thoſe which contain the peculiar odour, flavour, and aromatic quality, are either not extracted at all, or exhale along with the menſtruum. Thus gentian root, which is almoſt ſimply bitter, yields an extract poſſeſſing in a ſmall volume the whole taſte and virtues of the root.—Wormwood, which has a degree of warmth and ſtrong flavour joined to the bitter, loſes the two firſt in the evaporation, and gives an extract not greatly different from the foregoing: the aromatic quality of cinnamon is diſſipated by this treatment, its aſtringency remaining; while an extract made from the flowers of lavender and roſemary, diſcovers nothing either of the taſte, ſmell or virtues of the flowers.

General Rules for making Extracts with Water.

1. It is indifferent, with regard to the medicine, whether the ſubject be uſed freſh or dry; ſince nothing that can be preſerved in this proceſs will be loſt by drying. With regard to the facility of extraction, there is a very conſiderable difference; vegetables in general giving out their virtues more readily when moderately dried than when freſh.

2. Very compact dry ſubſtances ſhould be reduced into exceeding ſmall parts, previous to the affuſion of the menſtruum.

3. The quantity of water ought to

to be no greater than is neceſſary for extracting the virtues of the ſubject. A difference herein will ſometimes occaſion a variation in the quality of the product; the larger the quantity of liquor, the longer time will be requiſite for evaporating it, and conſequently the more volatile parts of the ſubject will be diſſipated. A long-continued heat likewiſe makes a conſiderable alteration in the matter which is not volatile. Sweet ſubſtances, by long boiling with water, become naufeous; and the draſtic purgatives loſe their virulence, though without any remarkable ſeparation of their parts.

4. The decoctions are to be depurated by colature; and afterwards ſuffered to ſtand for a day or two, when a conſiderable quantity of ſediment is uſually found at the bottom. If the liquor poured off clear be boiled down a little, and afterwards ſuffered to cool again, it will depoſite a freſh ſediment, from which it may be decanted before you proceed to finiſh the evaporation. The decoctions of very reſinous ſubſtances do not require this treatment, and are rather injured by it; the reſin ſubſiding along with the inactive dregs.

5. The evaporation is moſt conveniently performed in broad ſhallow veſſels; the larger the ſurface of the liquor, the ſooner will the aqueous parts exhale: This effect may likewiſe be promoted by agitation.

6. When the matter begins to grow thick, great care is neceſſary to prevent its burning. This accident, almoſt unavoidable if the quantity be large, and the fire applied as uſual under the evaporating pan, may be effectually ſecured againſt, by carrying on the inſpiſſation after the common manner, no farther than to the conſiſtence of a ſyrup, when the matter is to be poured into ſhallow tin or earthen pans, and placed in an oven, with its door open, moderately heated; which acting uniformly on every part of the liquid, will ſoon reduce it to any degree of conſiſtence required. This may likewiſe be more ſecurely done, by ſetting the evaporating veſſel in boiling water, but the evaporation is in this way very tedious.

Obſervations on Extracts with Rectified Spirit.

Rectified ſpirit of wine diſſolves the eſſential oils and reſins of vegetables, and does not readily carry off the oil in its exhalation; the heat ſufficient to exhale pure ſpirit being much leſs than that in which water evaporates to any conſiderable degree, or moſt eſſential oils diſtil. Hence a reſinous or ſpirituous extract of wormwood, contrary to that made with water, contains the warmth and flavour, as well as bitterneſs of the herb; one made from cinnamon poſſeſſes its aromatic virtue, as well as its aſtringency; and one from lavender and roſemary flowers, retains great part of their flavour and virtues; the volatile parts, which are carried off by water in its evaporation being left behind by the ſpirit.

The ſpirit employed for this purpoſe ſhould be perfectly free from any ill flavour, which would be communicated in part to the preparation; and from any admixture of phlegm or water, which would not only vary its diſſolving power, but likewiſe, evaporating towards the end of the inſpiſſation, would promote

mote the dissipation of the volatile parts of the subject. Hence, also, the subject itself ought always to be dry: those substances which lose their virtue by drying, lose it equally on being submitted to this treatment with the purest spirit.

The inspissation should be performed from the beginning, in the gentle heat of a water bath. It is not needful to suffer the spirit to evaporate in the air: greatest part of it may be recovered by collecting the vapour in common distilling vessels. If the distilled spirit be found to have brought over any flavour from the subject, it may be advantageously reserved for the same purposes again.

It is observable, that tho' rectified spirit be the proper menstruum of the pure volatile oils, and of the grosser resinous matter of vegetables, and water of the mucilaginous and saline; yet these principles are, in almost all plants, so intimately combined together, that whichever of these liquors is applied at first, it will take up a portion of what is directly soluble only in the other. Hence sundry vegetables, extremely resinous, and whose virtues consist chiefly in their resin, afford nevertheless very useful extracts with water, though not equal to those which may be obtained by a prudent application of spirit. Hence also, the extracts made from most vegetables by pure spirit, are not mere resins; a part of the gummy matter, if the subject contained any such, is taken up along with the resin, an admixture of great advantage to it in a medicinal view. The spirituous extracts of several vegetable substances, as mint leaves, rhubarb, saffron, dissolve in water as well as in spirit.

Pure resins are prepared by mixing, with spirituous tincture of very resinous vegetables, a quantity of water. The resin, incapable of remaining dissolved in the watery liquor, separates and falls to the bottom; leaving in the menstruum such other principles of the plant as the spirit might have extracted at first along with it.

Observations on Extracts with Spirit and Water.

There are sundry vegetables, particularly those of a resinous nature, which are treated, to better advantage, with a mixture of water and spirit, than with either of them singly. The virtues of resinous woods, barks, and roots, may indeed be in great part extracted by long boiling in fresh portions of water; but at the same time they suffer a considerable injury from the continued heat necessary for the extraction, and for the subsequent evaporation of so large a quantity of the fluid. Rectified spirit of wine is not liable to this inconvenience; but the extracts obtained by it from the substances here intended, being almost purely resinous, are less adapted to general use than those in which the resin is divided by an admixture of the gummy matter, of which water is the direct menstruum.

There are two ways of obtaining these compound, or gummy-resinous extracts: one, by using proof-spirit, that is, a mixture of about equal parts of spirit and water, for the menstruum; the other, by digesting the subject first in pure spirit and then in water, and afterwards uniting into one mass the parts which the two menstrua have

ſeparately extracted. In ſome caſes, where a ſufficiency of gummy matter is wanting in the ſubject, it may be artificially ſupplied, by inſpiſſating the ſpirituous tincture to the conſiſtence of a balſam, then thoroughly mixing with it a thick ſolution of any ſimple gum, as mucilage of gum arabic, and drying the compound with a gentle heat. By this method are obtained elegant gummy-reſins, extemporaneouſly miſcible with water into milky liquors.

Obſervations on Extracts by Long Digeſtion.

It has been obſerved, that the virtues of vegetable decoctions are altered by long boiling. Decoctions or infuſions of draſtic vegetables, by long continued boiling or digeſtion, loſe more and more of their virulence; and at the ſame time depoſite more and more of a groſs ſediment, reſulting probably from the decompoſition of their active parts. On this foundation it has been attempted to obtain ſafe and mild preparations from ſundry virulent drugs; and ſome of the chemiſts have ſtrongly recommended the proceſs, tho' without ſpecifying, or giving any intimation of, the continuance of boiling requiſite for producing the due mildneſs in different ſubjects. M. Baumé, in his *Elemens de Pharmacie*, lately publiſhed, has given a particular account of an extract of opium prepared on this principle; of which extract, as it is alleged to be very uſeful in practice, it may not be improper to give a ſhort deſcription: And this we ſhall accordingly ſubjoin to our account of the opium purificatum of the London college.

Obſervations on particular Extracts.

EXTRACTUM CHAMÆMELI.

Extract of chamomile.

CACUMINIS GENISTÆ.

Broom tops.

GENTIANÆ.

Gentian.

GLYCYRRHIZÆ.

Liquorice.

HELLEBORI NIGRI.

Black hellebore.

RUTÆ.

Rue.

SABINÆ.

Savin.

Lond.

Boil the article in diſtilled water, preſs out the decoction, ſtrain it, and ſet it apart that the feces may ſubſide; then boil it again in a water bath ſaturated with ſea-ſalt to a conſiſtence proper for making pills.

The ſame kind of bath is to be uſed in the preparation of all the extracts, that the evaporation may be properly performed.

EXTRACTUM GENTIANÆ.

Edin.

Extract of Gentian.

Take of

Gentian root, as much as you pleaſe.

Having cut and bruiſed it, pour upon it four times its quantity of water. Boil to the conſumption of one half of the liquor; and ſtrongly expreſſing it, ſtrain. Evaporate the decoction to the conſiſtence of thick honey, in veſſels expoſed to the vapour of hot water.

In preparing this and every other extract, it is neceſſary to keep up a conſtant ſtirring towards the end of the proceſs, in order to prevent an empyreuma, and that the extract

may be of an uniform conſiſtence, and free of clots.

In the ſame manner are prepared

Extract of the
- roots of black hellebore;
- leaves of the pulſatilla nigricans;
- leaves of rue;
- leaves of white poppies;
- imperfectly ripe ſeeds of hemlock.

All the above extracts contain the virtues of the vegetable in a ſtate of tolerable perfection.

The extract of chamomile loſes in its formation the ſpecific flavour of the plant; but it is ſaid to furniſh a bitter remarkably antiſeptic, and to be given with advantage in different ſtomach aliments to the extent of a ſcruple or two, either by itſelf, or in conjunction with other remedies. The extract of broom tops is chiefly employed in hydropic caſes; and when taken to the quantity of about a dram is ſaid to operate as a powerful diuretic.

The mode of preparing theſe extracts directed by the London and Edinburgh Colleges is not eſſentially different: But ſome advantage will ariſe from employing the diſtilled water directed by the former; and the directions given by the latter with regard to the quantity of water to be uſed, and the degree of boiling to be employed before expreſſion, are not without ſome uſe.

The extract is the only preparation of the pulſatilla nigricans, and it ſeems ſufficiently well ſuited to be brought into this form. The extract of the white poppy-heads is not perhaps ſuperior in any reſpect to opium; but to thoſe who may think otherwiſe, it is convenient to preſerve them in this form for preparing the ſyrup occaſionally. The ſeeds of hemlock have by ſome been thought ſtronger, or at leaſt that they produce giddineſs ſooner, than the leaves; but this extract has not hitherto come into general uſe.

EXTRACTUM COLOCYNTHIDIS COMPOSITUM. *Lond.*

Compound extract of Coloquintida.

Take of
- Pith of coloquintida, cut ſmall, ſix drams;
- Socotorine aloes, powdered, an ounce and a half;
- Scammony, powdered, half an ounce;
- Smaller cardamon ſeeds, huſked and powdered, one dram;
- Proof ſpirit, one pint.

Digeſt the coloquintida in the ſpirit, with a gentle heat, during four days. To the expreſſed tincture add the aloes and ſcammony: when theſe are diſſolved, diſtil off the ſpirit, ſo that what remains may be of a conſiſtence proper for making pills, adding the ſeeds towards the end of the proceſs.

This compoſition anſwers very effectually as a cathartic, ſo as to be relied on in caſes where the patient's life depends on that effect taking place; the doſe is from fifteen grains to half a dram. The proof ſpirit is a very proper menſtruum for the purgative materials; diſſolving nearly the whole ſubſtance of the aloes and ſcammony, except the impurities; and extracting from the colocynth, not only the irritating reſin, but great part of the gummy matter. In our former pharmacopœias three ſpices were employed in this compoſition, cinnamon, mace, and cloves: the cardamom ſeeds, now introduced, are preferable, on account of their aromatic

tic matter being of a less volatile nature; though a considerable part of the flavour, even of these, is dissipated during the evaporation of the phlegmatic part of the proof-spirit.

ELATERIUM.

Lond.

Elaterium.

Slit ripe wild cucumbers, and pass the juice, very lightly pressed, through a fine hair sieve, into a glass vessel; then set it by for some hours until the thicker part has subsided. Pour off the thinner part swimming at the top, and separate the rest by filtering: cover the thicker part, which remains after filtration, with a linen cloth, and dry it with a gentle heat.

What happens in part in preparing the extract of hemlock, happens in this preparation completely, viz. the spontaneous separation of the medicinal matter of the juice on standing for a little time: and the case is the same with the juices of several other vegetables, as those of arum root, iris root, and bryony root. Preparations of this kind have been commonly called *faculæ*. The filtration above directed, for draining off such part of the watery fluid as cannot be separated by decantation, is not the common filtration thro' paper, for this does not succeed here: The grosser parts of the juice, falling to the bottom, form a viscid cake upon the paper, which the liquid cannot pass through. The separation is to be attempted in another manner, so as to drain the fluid from the top: This is effected by placing one end of some moistened strips of woollen cloth, skains of cotton, or the like, in the juice, and laying the other end over the edge of the vessel, so as to hang down lower than the surface of the liquor: by this management the separation succeeds in perfection.

Elaterium is a very violent hydragogue cathartic. In general, previous to its operation, it excites considerable sickness at the stomach, and not unfrequently it produces severe vomiting. Hence it is seldom employed till other remedies have been tried in vain. But in some instances of ascites it will produce a complete evacuation of water where other cathartics have had no effect. Two or three grains are in general a sufficient dose. And perhaps the best mode of exhibiting it is by giving it only to the extent of half a grain at a time, and repeating that dose every hour till it begins to operate.

EXTRACTUM LIGNI CAMPECHENSIS.

Lond.

Extract of Logwood.

Take of

Shavings of logwood, one pound.

Boil it four times, or oftener, in a gallon of distilled water, to one half; then, all the liquors being mixed and strained, boil them down to a proper consistence.

The extract of logwood has been used for a considerable time in some of our hospitals. It has an agreeable sweet taste, with some degree of astringency; and hence becomes serviceable in diarrhœas, for moderately constringing the intestines and orifices of the smaller vessels: It may be given from a scruple to half a dram, and repeated five or six times a-day with advantage. During the use of this medicine, the stools are frequently tinged red by it, which has occasioned some to be alarmed as if the colour proceeded from blood: the practitioner therefore ought to caution the patient against any surprise of this kind.

The active parts of the logwood are difficultly extracted by means of water alone: Hence the Edinburgh college call in the aid of ſpirit of wine, directing this extract to be prepared in the ſame manner as that of jalap, afterwards to be mentioned. And of the two modes, we are inclined to conſider the latter as intitled to the preference.

EXTRACTUM CORTICIS PERUVIANI.

Lond.

Extract of Peruvian bark.

Take of

Peruvian bark, coarſely powdered, one pound;

Diſtilled water, twelve pints.

Boil it for one or two hours, and pour off the liquor, which, while hot, will be red and pellucid; but, as it grows cold, will become yellow and turbid. The ſame quantity of water being again poured on, boil the bark as before, and repeat this boiling until the liquor, being cold, remains clear. Then reduce all theſe liquors, mixed together and ſtrained, to a proper thickneſs, by evaporation.

This extract muſt be prepared under two forms; one *ſoft*, and fit for making pills; the other *hard*, that it may be reducible to a powder.

EXTRACTUM CORTICIS PERUVIANI CUM RESINA.

Lond.

Extract of Peruvian bark with the reſin.

Take of

Peruvian bark, reduced to coarſe powder, one pound;

Rectified ſpirit of wine, four pints.

Digeſt it for four days, and pour off the tincture; boil the reſiduum in ten pints of diſtilled water to two; then ſtrain the tincture and decoction ſeparately, evaporating the water from the decoction, and diſtilling off the ſpirit from the tincture, until each begins to be thickened. Laſtly, mix the reſinous with the aqueous extract, and make the maſs fit for forming into pills.

EXTRACTUM CORTICIS PERUVIANI.

Edinb.

Extract of Peruvian bark.

The Edinburgh college, who have not given a place to any pure watery extract of the bark, direct their extract of this medicine to be prepared in the ſame manner as their extract of jalap, that is, almoſt preciſely in the ſame manner as the extract with reſin of the London college. It is, however, we think with propriety, that the London college have given a place to both extracts; for each is not without its uſe.

Peruvian bark is a reſinous drug: the reſin melts out by the heat, but is not perfectly diſſolved by the water; hence, in cooling, it ſeparates, renders the liquor turbid, and in part falls to the bottom, as appears manifeſtly upon examining the ſediment by ſpirit of wine. This extract might be made to better advantage by the aſſiſtance of ſpirit of wine, after the ſame manner as that of jalap; and this method the Edinburgh College have directed. But all the ſpirits which can be expected to be employed for this proceſs among us, are accompanied with ſome degree of a bad flavour: this adheres moſt ſtrongly to the phlegmatic part of the ſpirit, which evaporating laſt, muſt communicate this ill flavour to the extract; a circumſtance of very great conſequence, as this medicine is deſigned for thoſe whoſe ſtomachs are too weak to bear a due quantity

of

of bark in substance. Ten or twelve grains of the hard extract are reckoned equivalent to about half a dram of the bark itself.

In the Peruvian bark, however, we may readily distinguish two different kinds of tastes, an astringent and a bitter one; the former seems to reside principally in the resinous matter, and the latter chiefly in the gummy. The watery extract is moderately strong in point of bitterness, but of the astringency it has only a small degree. The pure resin, on the other hand, is strong in astringency, and weak in bitterness. Both qualities are united in the extract with the resin; which appears to be the best preparation of this kind that can be obtained from this valuable drug.

EXTRACTUM CASCARILLÆ.

Lond.

Extract of Cascarilla.

This extract, which is now for the first time introduced into the pharmacopœia of the London college, and which has not yet obtained a place in that of Edinburgh, is directed to be prepared by spirit and water in the same manner as the extract of bark with the resin. It possesses in a concentrated state the active constituent parts of the cascarilla, and has accordingly been already received into several of the best foreign pharmacopœias. In some of these, as the Pharmacopœia Suecica, it is a mere watery extract: but in others, as the Pharmacopœia Rossica, the aid both of spirits and water are conjoined; and this we consider as the best preparation.

EXTRACTUM JALAPPÆ.

Edinb.

Extract of Jalap.

Take of
- Jalap root, one pound;
- Rectified spirit of wine, four pounds.

Digest four days, and pour out the tincture. Boil the remaining magma in ten pounds of water to two pounds; then strain the decoction, and evaporate it to the consistence of pretty thin honey. Draw off the spirit from the tincture by distillation till what remains becomes thick. Then mix the liquors thus inspissated; and keeping them constantly stirring, evaporate to a proper consistence.

The extract of jalap is directed to be prepared by the London college in the same manner as their extract of Peruvian bark with the resin, which differs in nothing from the mode of preparation above directed.

This extract is an useful purgative; by some thought preferable to the crude root, as being of more uniform strength, and as the dose, by the rejection of the woody parts, is rendered smaller: the mean dose is twelve grains. If the spirituous tincture were inspissated by itself, it would afford a resinous mass, which, unless thoroughly divided by proper admixtures, occasions violent griping, and yet does not prove sufficiently cathartic; the watery decoctions yield an extract which operates very weakly: both joined together, as in this preparation, compose an effectual and safe purge. This method of making extracts might be advantageously applied to several other resinous substances, as the dry woods, roots, barks, &c. A small quantity of spirit takes up the resin; and much less water than would otherwise be necessary,

ceſſary, extracts all the other ſoluble parts.

In a former edition of the Edinburgh Pharmacopœia, a little fixed alkaline ſalt was ordered to be added to the water in which the jalap is boiled after the action of ſpirit; on a ſuppoſition that this would enable the water to extract more from the root than it could by itſelf. But, ſo far as the quantity of the alkaline ſalt could go, it had the oppoſite effect, impeding the action of the water. The reſinous parts of the jalap are diſſolved by the ſpirit; and little other than the gummy matter remains for water to extract. Now, if pure gum arabic be put into water along with any alkaline ſalt, the ſalt will render the water incapable of diſſolving the gum: if the gum be diſſolved firſt, the addition of any alkaline ſalt will precipitate it.

EXTRACTUM SENNÆ.

Lond.

Extract of Senna.

Take of

Senna, one pound;

Diſtilled water, one gallon;

Boil the ſenna in the diſtilled water, adding after its decoction a little rectified ſpirit of wine. Evaporate the ſtrained liquor to a proper thickneſs.

This extract had no place in our former pharmacopœias, but may be conſidered as an uſeful addition.

The reſinous parts of ſenna are in ſo ſmall a proportion to the gummy, that they are readily boiled out together. The ſpirit may be added when the decoction is reduced to one half or to three pints.

This extract is given as a gentle purgative from ten grains to a ſcruple; or, in leſs quantity, as an aſſiſtant to the milder laxatives.

OPIUM PURIFICATUM.

Lond.

Purified Opium.

Take of

Opium, cut into ſmall pieces, one pound;

Proof ſpirit of wine, twelve pints.

Digeſt the opium with a gentle heat, ſtirring now and then till it be diſſolved, and filter through paper. Diſtil the tincture, ſo prepared, to a proper thickneſs.

Purified opium muſt be kept in two forms; one *ſoft*, proper for forming into pills; the other *hard*, which may be reduced into powder.

Opium was formerly purified by means of water, and in this ſtate it had the name in our pharmacopœia of *extractum thebaicum*. But proof ſpirit has been found, by experiments, to be the beſt menſtruum for opium, having diſſolved three-fourths of dried opium, which was much more than was taken up either by rectified ſpirit or water. Hence we thus obtained moſt entirely the conſtituents of opium free from any adhering impurities: But it has been imagined that ſome particular advantages ariſe from the parts which are extracted by water, eſpecially after long digeſtion; and accordingly the following extract of opium has been recommended by Mr Baume.

Extract of Opium prepared by long digeſtion.

Let five pounds of good opium, cut in pieces, be boiled about half an hour, in twelve or fifteen quarts of water: ſtrain the decoction, and boil the remainder once or twice in freſh water, that ſo much of the opium as is diſſoluble in water may be got out.

Evaporate the ſtrained decoctions to about ſix quarts; which being put into a tin cucurbit, placed in a ſand-bath, keep up ſuch a fire as may make the liquor nearly boil, for three months together if the fire is continued day and night, and for ſix months if it is intermitted in the night; filling up the veſſel with water in proportion to the evaporation, and ſcraping the bottom with a wooden ſpatula from time to time, to get off the ſediment which begins to precipitate after ſome days digeſtion. The ſediment needs not to be taken out till the boiling is finiſhed; at which time the liquor is to be ſtrained when cold, and evaporated to an extract of a due conſiſtence for being formed into pills.

The author obſerves, that by keeping the liquor ſtrongly boiling, the tedious proceſs may be conſiderably expedited, and the ſix months digeſtion reduced to four months: that in the beginning of the digeſtion, a thick, viſcous, oily matter riſes to the top, and forms a tenacious ſkin as the liquor cools; this is ſuppoſed to be analagous to eſſential oils, though wanting their volatility: that the oil begins to diſappear about the end of the firſt month, but ſtill continues ſenſible till the end of the third, forming oily clouds as often as the liquid cools; that the reſin at the ſame time ſettles to the bottom in cooling, preſerving for a long while its reſinous form, but by degrees becoming powdery, and incapable of being any longer ſoftened, or made to cohere by the heat: that when the proceſs is finiſhed, part of it ſtill continues a perfect reſin, diſſoluble in ſpirit of wine, and part an indiſſoluble powder: that when the digeſted liquor is evaporated to about a quart, and ſet in the cold till next day, it yields a browniſh earthy-ſaline matter, called the eſſential ſalt of opium, in figure nearly like the ſedative ſalt obtained from borax, intermingled with ſmall needled cryſtals. He gives an account of his having made this preparation ſix or ſeven times. The veſſel he made uſe of was about two inches and a half diameter in the mouth: the quantity of water evaporated was about twenty-four ounces a-day, and from a hundred and thirty to a hundred and forty quarts during the whole digeſtion. Out of ſixty four ounces of opium, ſeventeen ounces remained undiſſolved in the water; the quantity of reſinous matter precipitated during the digeſtion, was twelve ounces: from the liquor, evaporated to a quart, he obtained a dram of eſſential ſalt, and might, he ſays, have ſeparated more; the liquor being then further evaporated to a pilular conſiſtence, the weight of the extract was thirty-one ounces.

It is ſuppoſed, that the narcotic virtue of opium reſides in the oily and reſinous parts; and that the gummy extract, prepared by the above proceſs, is endowed with the calming, ſedative, or anodyne powers of the opium, diveſted of the narcotic quality as it is of the ſmell, and no longer productive of the diſorders which opium itſelf, and the other preparations of it, frequently occaſion. A caſe is mentioned, from which the innocence and mildneſs of the medicine are apparent; fifty grains having been taken in a day, and found to agree well, where the common opiate preparations could not be borne. But what ſhare it poſſeſſes of the proper virtues of opium is not ſo clear; for the cure of convulſive motions of the ſtomach and vomitings, which at length happened after the extract had been continued daily in the above doſes for ſe-

several years *(plusieurs années)* cannot perhaps be ascribed fairly to the medicine.

If the theory of the process, and of the alteration produced by it in the opium, be just, a preparation equivalent to the above may be obtained in a much shorter time. If the intention is to separate the resinous and oily parts of opium, they may be separated by means of pure spirit of wine, in as many hours as the digestion requires months. The separation will also be as complete, in regard to the remaining gum, though some part of the gum will in this method be lost, a little of it being taken up by the spirit along with the other principles.

In what particular part of opium its peculiar virtues reside, has not perhaps been incontestably ascertained; but this much seems clear from experiment, that the pure gum, freed from all that spirit can dissolve, does not differ essentially in its soporific power from the resinous part.

There are grounds also to presume, that by whatever means we destroy or diminish what is called the narcotic, soporific, virulent quality of opium, we shall destroy or diminish likewise its salutary operation. For the ill effects which it produces in certain cases, seem to be no other than the necessary consequences of the same power, by which it proves so beneficial in others.

EXTRACTUM ABSINTHII.

Suec.

Extract of Wormwood.

Take any quantity of the tops of wormwood, and pour upon it double its weight of water. Boil it for a short time over a gentle fire, then press out the liquor. Boil the residuum again in a fresh quantity of water, and after expression, strain it. Let the strained liquor be evaporated in a water-bath to a proper consistence.

In this extract we have one of the strongest vegetable bitters in its most concentrated state: and though it is not perhaps to be considered as superior to the extract of gentian, yet it furnishes a good variety, and is a more agreeable form for exhibiting the wormwood than that of strong tincture.

EXTRACTUM TARAXACI.

Suec.

Extract of Dandelion.

This is directed to be prepared from the roots of the dandelion, collected early in the spring, or late in the autumn, in the same manner as the extractum absinthii. And as far as the dandelion really possesses a resolvent, aperient, or diuretic power, it furnishes a convenient form for obtaining these effects from it. But as the dandelion is well known to abound with a milky juice, it is probable that the activity of the medicine would be increased from employing spirit also in the extraction of its medical virtues.

EXTRACTUM ALOES AQUOSUM.

Suec.

Watery extract of Aloes.

Take of

Hepatic aloes one pound,
Cold spring-water, four pounds,
Juice of citrons, one pound,

Macerate them in a glass vessel for one or two days, shaking the vessel from time to time. When the resinous and fœculent parts have subsided, pour off the liquor; and to the residuum add fresh water, till by this treatment it obtains little impregnation. Let the strained liquors be then evaporated in a warm bath to the consistence of honey.

Al-

Although aloes are perhaps upon the whole a better medicine, in their crude ſtate, where the gummy and reſinous matters are united, than in thoſe preparations where either is retained ſeparately, yet the gummy extract which is thus obtained is at leaſt leſs diſagreeable, having little ſmell or taſte, while at the ſame time it is a very powerful purgative: hence it may be uſefully employed at leaſt on ſome occaſions.

EXTRACTUM MYRRHÆ GUMMOSUM.

Brun.

Gummy extract of Myrrh.

Take of

Myrrh, half a pound;
Spring-water, four pounds.

Let the myrrh be diſſolved by gentle digeſtion and repeated agitation of the veſſel for four or five days: let the water ſwiming above the myrrh be then poured off, ſtrained, and evaporated to the conſiſtence of an extract.

This watery extract of myrrh may be uſeful in ſome caſes, as being much deprived of the heating qualities which it has in its crude ſtate: and if it furniſhes us in phthiſis pulmonalis with that uſeful remedy which ſome imagine, it may probably be moſt advantageouſly exhibited under this form.

SUCCUS LIQUORITIÆ DEPURATUS.

Dan.

Refined Liquorice.

Take any quantity of Spaniſh liquorice, cut it into ſmall fragments, diſſolve it in tepid water, and ſtrain the ſolution. Let the liquor be poured off from the feculent part after it has ſubſided, and inſpiſſated by a gentle heat.

The extract of liquorice already mentioned, when it is prepared with due ſkill and attention, is unqueſtionably an article ſuperior to this; but it is very rarely met with in the ſhops of our druggiſts or apothecaries, as prepared by themſelves. In its place they very commonly employ either the extract brought from Spain, or that prepared by the makers of liquorice at home; both of which very commonly abound with impurities. It has even been ſaid, that a portion of ſand is not unfrequently mixed with it, to increaſe the weight: but whether the impurities aroſe from this cauſe, or from the ſlovenly mode of preparing it, conſiderable advantage muſt ariſe from freeing it from all theſe, before it be employed for any purpoſe in medicine. And in modern practice, it is frequently uſed, not only in troches and pills, but alſo for ſuſpending powders in water; ſuch as the powder of Peruvian bark: and the powder of bark, when thus ſuſpended, is in general taken more readily by children than in any other form. Hence conſiderable advantage muſt ariſe from a proper and eaſy mode of purifying it, which the above proceſs affords. We are of opinion, therefore, that although a place be with propriety given to the extract of liquorice prepared by the apothecaries themſelves, refined liquorice ought alſo to be introduced into our pharmacopœias; and it would be very convenient to keep it in the ſhops in a ſoft conſiſtence, fit for making pills; as it would not only anſwer that purpoſe, but admit of a ready ſolution in water when requiſite. To this conſiſtence indeed, an objection occurs, from its being apt to grow mouldy: but this may be effectually prevented by the addition of a ſmall proportion of ſpirit.

Besides the extracts which we have here selected from the foreign pharmacopœias, many others also still retain a place in several of these; such for example as the extractum arnicæ, artemisiæ, bryoniæ, cardui, centaurei, cochleariæ, croci, &c. Several of these had formerly a place in our pharmacopœias, but are now with propriety rejected; because where these substances are to be employed, they may with much more advantage be exhibited under other forms. And, indeed, although under the form of extract we have a condensation of some active principles, yet by the action of fire others are very apt to be lost. Hence, where any article can be conveniently exhibited in substance, that form is in general preferable; and recourse should be had to extracts only with a view to some particular intention. Our colleges therefore have, with propriety, diminished the number of them; and even those which they have adopted are but seldom to be had recourse to in preference to other forms. In the formation of many of those extracts retained by the foreign colleges, the most valuable principles are either entirely dissipated or destroyed by the fire. We think, however, that advantage may sometimes be obtained from adopting these which are here selected.

The chapter on extracts and resins in the London pharmacopœia is concluded with the two following general directions;

1. All the extracts, during the time of inspissation, must be gently agitated.

2. On all the softer watery extracts, a small quantity of spirit of wine must be sprinkled.

CHAP. V.

EXPRESSED OILS.

Expressed oils are obtained chiefly from certain seeds and kernels of fruits, by thoroughly pounding them in a stone mortar, or, where the quantities are large, grinding them in mills, and then including them in a canvas bag, which is wrapt in a hair-cloth, and strongly pressed between iron plates. The canvas, if employed alone, would be squeezed so close to the plates of the press, as to prevent the oil from running down: by the interposition of the hair-cloth a free passage is allowed it.

Sundry machines have been contrived, both for grinding the subject and pressing out the oil, in the way of business. To facilitate the expression, it is usual to warm either the plates of the press, or the subject itself after the grinding, by keeping it stirring in a proper vessel over the fire; the oil, liquefied by the heat, separates more freely and more plentifully. When the oil is designed for medicinal purposes, this practice is not to be allowed; for heat, especially if its degree be sufficient to be of any considerable

ſiderable advantage for promoting the ſeparation, renders the oil leſs ſoft and palatable, impreſſes a diſagreeable flavour, and increaſes its diſpoſition to grow rancid: hence the colleges both of London and Edinburgh expreſsly require the operation to be performed without heat.

Nor are the oils to be kept in a warm place after their expreſſion. Expoſed for a few days to a heat no greater than that of the human body, they loſe their emollient quality, and become highly rancid and acrimonious. Too much care cannot be taken for preventing any tendency to this acrid irritating ſtate in medicines, ſo often uſed for abating immoderate irritation.

So much are theſe oils diſpoſed to this injurious alteration, that they frequently contract an acrimony and rancidity while contained in the original ſubjects. Hence great care is requiſite in the choice of the unctuous ſeeds and kernels, which are often met with very rancid; almonds are particularly liable to inconveniences of this kind.

Expreſſed oils are prepared for mechanic uſes from ſundry different ſubjects, as nuts, poppy-ſeed, hemp-ſeed, rape-ſeed, and others. Thoſe directed for medicinal purpoſes in the London and Edinburgh pharmacopœias are the following:

OLEUM AMYGDALÆ.

Lond. Ed.

Oil of Almonds.

Pound freſh almonds, either ſweet or bitter, in a mortar, then preſs out the oil in a cold preſs.

In the ſame manner is to be expreſſed,

Ol. eſem. Lini contuſis;
Oil of lint-ſeed.

Ol. e ſem. ſinapeos contuſis;
Oil of Muſtard-ſeed.

The oil of almonds is prepared from the ſweet and bitter almonds indifferently; the oils obtained from both ſorts being exactly the ſame. Nor are the differences of the other oils very conſiderable, the diſcriminating qualities of the ſubjects not reſiding in the oils that are thus obtained by expreſſion. The oil of lintſeed requires indeed ſome peculiarities from containing a proportion of vegetable mucilage; but the oil of muſtard-ſeed is as ſoft, inſipid, and void of pungency, as that of ſweet almonds, the pungency of the muſtard remaining entire in the cake left after the expreſſion. The ſeveral oils differ in ſome of their properties from each other; but in medicinal qualities they appear to be all nearly alike, and agree in one common emollient virtue. They ſoften and relax the ſolids, and obtund acrimonious humours; and thus become ſerviceable internally in pains, inflammations, heat of urine, hoarſeneſs, tickling coughs, &c. in glyſters, for lubricating the inteſtines, and promoting the ejection of indurated feces; and in external applications, for tenſion and rigidity of particular parts. Their common doſe is half an ounce: in ſome caſes, they are given to the quantity of three or four ounces. The moſt commodious forms for their exhibition, we ſhall ſee hereafter in the chapter of Emulſions.

OLEUM E SEMINIBUS RICINI, DEMTO PRIUS CORTICE.

Lond.

Caſtor oil.

This oil is directed by the London college to be prepared in the ſame manner as that of almonds, the ſeeds or nuts being taken from the huſks before putting them into the mortar. Palma Chriſti, or caſtor oil, as has already been obſerved in

the Materia Medica, under the article Ricinus, is a gentle and useful purgative: it generally produces its effects without griping, and may be given with safety where acrid purgatives are improper. With adults, from half an ounce to an ounce is generally requisite for a dose. This article, however, is very seldom prepared by our apothecaries, being in general imported under the form of oil from the West Indies: hence the Edinburgh college have not mentioned it among their preparations, but merely given it a place in their list of the materia medica. But when our apothecaries prepare it for themselves, they are more certain of obtaining a pure oil, and one too obtained without the aid of heat, which is often employed, and gives a much inferior oil. It is therefore with propriety that the London college have given directions for the preparation of it by the apothecary himself. But even the London college have not thought it necessary to give directions for the preparation of the following expressed oils, which, as well as the oleum ricini, are also introduced into the list of the materia medica by the Edinburgh college.

Oleum expressum	Expressed oil of
Baccarum lauri;	Bay berries.
Nucis moschatæ;	Mace.
Olivarum;	Olives.
Palmæ;	Palm

These also are principally considered as possessing only an emollient virtue; but as far as they have been supposed to exert any peculiar qualities, these we have already had occasion to mention in the materia medica, when treating of the articles from which they are obtained.

OLEUM CACAO.

Suec.

Oil of Chocolate Nuts.

Express the oil from the nuts slightly toasted, and freed from their coverings.

In this oil we have the nutritious part of chocolate, free from those aromatics with which it is united in the state in which it is kept in our shops. And although under the form of chocolate it sits perhaps more easily on the stomach than in most other forms; yet where, from any particular circumstance, aromatics are contraindicated, the oil in its pure state gives us an opportunity of employing in different ways this mild nutritious article.

OLEUM E SEMINIBUS HYOSCYAMI.

Suec.

Oil of Hyoscyamus.

This oil is directed to be obtained by expression from the seeds of the hyoscyamus, in the same manner as that of almonds.

Of the narcotic powers of the hyoscyamus some observations have already been offered. This oil, although an expressed one, is said to retain these virtues; and accordingly it has entered the composition of some anodyne ointments and plasters. We are however inclined to think, that when the sedative power of hyoscyamus is wanted under the form of oil, it may be best obtained from impregnating olive oil by the leaves of the plant.

OLEUM OVI.

Suec.

Egg oil.

Take any quantity of fresh eggs, boil them till they be quite hard, then take out the yolks, break them in pieces, and roast them gently in a frying-pan, till they feel greasy when pressed between the fingers; put them, while warm

warm, into a hair bag, and expreſs the oil.

The yolk of the egg is well known to be a mild nutritious ſubſtance: but notwithſtanding the many virtues at one time attributed to it, of being paregoric and ſtyptic, as externally applied; and of being uſeful in ſtomach complaints, dyſentery and different affections of the alimentary canal, when taken internally; it is much to be doubted whether it be in any other way uſeful in medicine than as an article of diet: and we are very uncertain whether any particular purpoſe in medicine will be anſwered by this expreſſed oil: but as it holds a place in moſt of the foreign pharmacopœias of modern date, it may juſtly be conſidered as deſerving ſome attention.

Notwithſtanding the juſtice of the obſervation reſpecting the great ſimilarity of expreſſed oils in general, yet there can be no doubt, that in ſome inſtances they obtain a peculiar impregnation. This manifeſtly appears in the oleum ricini, oleum nucis moſchatæ, and ſome of the others mentioned above. Indeed oils expreſſed from aromatic ſubſtances, in general retain ſome admixture of the eſſential oil of the ſubject from which they are expreſſed. Nor is this ſurpriſing, when we conſider that in ſome caſes the eſſential oil exiſts in a ſeparate ſtate even in the growing plant.

The rinds of the ſeveral varieties of oranges, lemons, and citrons, yield by a kind of expreſſion, their eſſential oils almoſt pure, and nearly ſimilar to thoſe which are obtained from them by diſtillation. The eſſential oils, in which the fragrance and aromatic warmth of theſe fruits reſide, are contained in numerous little veſicles, which may be diſtinguiſhed by the naked eye, ſpread all over the ſurface of the peel. If the rind be cut in ſlices, and the ſlices ſeparately doubled or bent in different parts, and ſqueezed between the fingers, the veſicles burſt at the bending, and diſcharge the oil in a number of fine ſlender jets. A glaſs plate being ſet upright in a glaſs or porcelain veſſel, and the ſlices ſqueezed againſt the plates, the little jets unite into drops upon the plate, and trickle down into the veſſel beneath. But though this proceſs affords the true native oil, in the ſame ſtate wherein it exiſted in the ſubject, unaltered by fire or other agents, it is not practicable to advantage, unleſs where the fruit is very plentiful; as only a ſmall part of the oil it contains can thus be extracted or collected.

The oil is more perfectly ſeparated by rubbing the rind upon a lump of ſugar. The ſugar, by the inequality of its ſurface, produces the effect of a raſp, in tearing open the oily veſicles; and in proportion as the veſicles are opened, the ſugar imbibes the oil. When the outward part of the lump is ſufficiently moiſtened, it is ſcraped off, and the operation continued on the freſh ſurface. The oil thus combined with the ſugar, is fit for moſt of the uſes to which it is applied in a fluid ſtate. Indeed the pure eſſential oils, obtained by diſtillation, are often purpoſely mixed with ſugar, to render their uſe the more commodious.

CHAP.

CHAP. VI.

OLEA DISTILLATA.

ESSENTIAL OILS.

Essential oils are obtained only from odoriferous substances; but not equally from all of this class, nor in quantity proportional to their degree of odour. Some, which, if we were to reason from analogy, should seem very well fitted for this process, yield extremely little oil, and others none at all. Roses and camomile flowers, whose strong and lasting smell promises abundance, are found upon experiment to contain but a small quantity: the violet and jessamine flower, which perfume the air with their odour, lose their smell upon the gentlest coction, and do not afford the least perceptible mark of oil on being distilled, unless immense quantities are submitted to the operation at once; while savin, whose disagreeable scent extends to no great distance, gives out the largest proportion of oil of almost any vegetable known.

Nor are the same plants equally fit for this operation, when produced in different soils or seasons, or at different times of their growth. Some yield more oil if gathered when the flowers begin to fall off than at any other time. Of this we have examples in lavender and rue; others, as sage, afford the largest quantity when young, before they have sent forth any flowers; and others, as thyme, when the flowers have just appeared. All fragrant herbs yield a larger proportion of oil when produced in dry soils and warm summers, than in opposite circumstances. On the other hand, some of the disagreeable strong-scented ones, as wormwood, are said to contain most in rainy seasons and when growing in moist rich grounds.

Several of the chemists have been of opinion, that herbs and flowers, moderately dried, yield a greater quantity of essential oil, than if they were distilled when fresh. It is supposed, that the oil being already blended, in fresh plants, with a watery fluid, great part of it remains diffused through the water after the distillation, divided into particles too minute to unite and be collected; whereas in drying, the oily parts, on the exhalation of the moisture which kept them divided and dispersed, run together into globules, which have little disposition to mingle with watery fluids, and easily, separate from the water employed in the distillation.

This theory, however does not appear to be quite satisfactory; for though the oil be collected in the subject into distinct globules, it does not

not rise in that form, but is resolved into vapour, and blended and coagitated by the heat with the vapour of the water; and if the oil in a dry plant was less disposed to unite with aqueous fluids than in a fresh one, the dry ought to yield a weaker infusion than the fresh; the contrary of which is generally found to obtain. As the oil of the dry plant is most perfectly extracted, and kept dissolved by the water before the distillation, it is difficult to conceive any reason why it should have a greater tendency to separate from the water afterwards.

The opinion of dry plants yielding most oil, seems to have arisen from an observation of Hoffman, which has probably been misunderstood: "A pound (he says) of dry "spike flowers yields an ounce of "oil; but if they were distilled "fresh, they would scarcely yield "above half an ounce; and the "case is the same in balm, sage, "&c. The reason is, that in dry-"ing, the watery humidity ex-"hales; and as from two pounds "of a fresh plant we do not ob-"tain above one pound of dry, and "little of the subtle oil evaporates "in the drying, it follows, that "more oil ought to be afforded by "the dry than by the fresh." The meaning of which seems to be no more than this, that if two pounds of a fresh plant are by drying reduced to one, without any loss of the oil, then the one pound dry ought to be equivalent to the two fresh. A late writer quotes an experiment of Neumann, which appears to be misunderstood in the same manner; for Newmann, in the place referred to, says only that dry wormwood is found to yield much more oil than an *equal weight* of the fresh plant. Trials are yet wanting in which fresh and dry plants have been brought to a fair comparison, by dividing a quantity of the subject into two equal weights, and distilling one while fresh, and the other after it has been carefully and moderately dried.

But whatever may be the effect of moderate exsiccation, it is certain, that if the drying be long continued, the produce of oil will be diminished, its colour altered, and its smell impaired.

With regard to the proportion of water to be employed, if whole plants, moderately dried, are used, or the shavings of woods, as much of either may be put into the vessel as, lightly pressed, will occupy half its cavity; and as much water may be added, as will fill two thirds of it. The water and ingredients, altogether, should never take up more than three-fourths of the still; there should be liquor enough to prevent any danger of an empyreuma, but not so much as to be too apt to boil over into the receiver.

The maceration should be continued so long, that the water may fully penetrate the parts of the subject. To promote this effect, woods should be thinly shaved across the grain, or sawn, roots cut transversely into thin slices, barks reduced into coarse powder, and seeds slightly bruised. Very compact and tenacious substances require the maceration to be continued a week or two, or longer; for those of a softer and looser texture, two or three days are sufficient; while some tender herbs and flowers not only stand in no need of maceration, but are even injured by it.

Whether the addition of sea salt, which some have recommended, be of any real service, is much to be doubted. The uses generally assigned to it are, to penetrate and unlock the texture of the subject more effectually

fectually than simple water could do; and to prevent the fermentation or putrefaction, which the matter is apt to run into during the length of time for which the maceration is often continued. But sea-salt seems rather to harden and condense, than to soften and resolve, both vegetable and animal subjects; and if it prevents putrefaction, it must, on that very account, be injurious rather than of service. The resolution here aimed at, approaches near to a beginning putrefaction; and saline substances, by retarding this, prolong the maceration far beyond the time that would otherwise be necessary. It is in the power of the operator, when he perceives the process coming near this pitch, to put a stop to it at pleasure, by proceeding immediately to distillation; by this means the whole affair will be finished in a very little time, with at least equal advantage in every other respect; provided the manual operations of pounding, rasping, and the like, which are equally necessary in either case, be minutely complied with.

Bodies of a very viscous and compact texture, were directed, in the Edinburgh Pharmacopœia, to be fermented for some days with a little yest; half their quantity of water is sufficient for performing the fermentation. As much more as is necessary is to be added afterwards before the distillation. This process undoubtedly promotes the resolution of the subject, and the extrication of the oil; it rarely happens, however, that assistances of this kind are needful. Particular care must be had not to continue the fermentation too long; or to give a bad flavour to the oil by an ill-chosen ferment, or using too large a quantity of any.

Some chemists pretend, that by the addition of salts and acid spirits, they have been enabled to gain more oil from certain vegetable matters than could possibly be got from them without such assistance. Experiments made on purpose to settle this point seem to prove the contrary; this at least is constantly found to be true, that where there is any reason to think the produce greater than usual, the quality of the oil is proportionally injured. The quantity of true essential oil in vegetables can by no means be increased; and what is really contained in them may be easily separated without any addition of this kind. All that saline matters can do in this respect, is, to make the water susceptible of a greater degree of heat than it can sustain by itself, and thus enable it to carry up a gross unctuous matter not volatile enough to rise with pure water: this gross matter, mingling with the pure oil, increases the quantity, but at the same time must necessarily debase its quality. And indeed, when water alone is used, the oil which comes over about the end of the operation is remarkably less fragrant, and of a thicker consistence, than that which rises at the beginning; distilled a second time, with a gentle heat, it leaves a large quantity of gross almost insipid resinous matter behind.

The choice of proper instruments is of great consequence for the performance of this process to advantage. There are some oils which pass freely over the swan neck of the head of the common still: others, less volatile, cannot easily be made to rise so high. For obtaining these last, we would recommend a large low head, having a rim or hollow canal round it: in this canal the oil is detained on its first ascent, and thence

thence conveyed at once into the receiver, the advantages of which are sufficiently obvious.

With regard to the fire, the operator ought to be expeditious in raising it at first, and to keep it up, during the whole process, of such a degree that the oil may freely distil; otherwise the oil will be exposed to an unnecessary heat; a circumstance which ought as much as possible to be avoided. Fire communicates to all these oils a disagreeable impregnation, as is evident from their being much less grateful when newly distilled, than after they have stood for some time in a cool place; the longer the heat is continued, the more alteration it must produce in them.

The greater number of oils require for their distillation the heat of water strongly boiling: but there are many also which rise with a heat considerably less; such as those of lemon and citron-peel, of the flowers of lavender and rosemary, and of almost all the more odoriferous kinds of flowers. We have already observed, that these flowers have their fragrance much injured, or even destroyed, by beating or bruising them; it is impaired also by the immersion in water in the present process, and the more so in proportion to the continuance of the immersion and the heat: hence oils, distilled in the common manner, prove much less agreeable in smell than the subjects themselves. For the distillation of substances of this class, another method has been contrived; instead of being immersed in water, they are exposed only to its vapour. A proper quantity of water being put into the bottom of the still, the odoriferous herbs or flowers are laid lightly in a basket, of such a size that it may enter into the still, and rest against its sides, just above the water. The head being then fitted on, and the water made to boil, the steam, percolating through the subject, imbibes the oil, without impairing its fragrance, and carries it over into the receiver. Oils thus obtained possess the odour of the subject in an exquisite degree, and have nothing of the disagreeable scent perceivable in those distilled by boiling them in water in the common manner.

It may be proper to observe, that those oils which rise with a less heat than that of boiling water, are generally called, by the chemical and pharmaceutical writers, *light* oils; and those which require the heat of water strongly boiling, are called *ponderous*. We have avoided these expressions, as they might be thought to relate to the comparative *gravities* of the oils; with which the volatility or fixedness have no connection. Olive oil is lighter than most of the essential oils; but the heat requisite to make it distil exceeds that in which the heaviest essential oil distils, considerably more than the heat of boiling water exceeds that of ice.

The water employed in the distillation of essential oils always imbibes some portion of the oil; as is evident from the smell, taste, and colour, which it acquires. It can not, however, retain above a certain quantity; and therefore, such as has been already used and consequently saturated with oil, may be advantageously employed, instead of common water, in a second, third, or any future distillation of the same subject.

Some late chemical writers recommend, not the water which comes over, but that which remains in the still, to be used a second time. This can be of no service; as containing only such parts of the vegetable as are incapable of arising

in distillation, and which serve only to impede the action of the water as a menstruum, and to endanger an empyreuma.

After the distillation of one oil, particular care should be taken to cleanse the worm before it be employed in the distillation of a different plant. Some oils, those of wormwood and aniseeds for instance, adhere to it so tenaciously, as not to be melted out by heat, or washed off by water: the best way of cleansing the worm from these, is to run a little spirit of wine thro' it.

Essential oils, after they are distilled, should be suffered to stand for some days, in vessels loosely covered with paper, till they have lost their disagreeable fiery odour, and become limpid: then put them up in small bottles, which are to be kept quite full, closely stopped, in a cool place: with these cautions, they will retain their virtues in perfection for many years.

When carelessly kept, they in time gradually lose their flavour, and become gross and thick. Some endeavour to recover them after they have undergone this change, by grinding them with about thrice their weight of common salt, then adding a large proportion of water, and distilling them afresh: the purer part rises thin and limpid, possessing a great degree of the pristine smell and taste of the oil, though inferior in both respects to the original oil. This rectification, as it is called, succeeds equally without the salt: the oils, when thus altered, are nearly in the same state with the turpentines, and other thickened oily juices, which readily yield their purer oil in distillation with water alone.

When essential oils have entirely lost their smell, some recommend adding them in the distillation of a fresh quantity of the oil of the same plant; by which means they are said to satiate themselves anew with the odorous matter, and become entirely renovated. This practice, however, ought doubtless be disapproved, as being no other than a specious sophistication; for it can do no more than divide, between the old and the new, the active matter which belongs to the new alone.

Essential oils, medicinally considered, agree in the general qualities of pungency and heat; in particular virtues, they differ as much as the subject from which they are obtained, the oil being the direct principle in which the virtues, or at least a considerable part of the virtues, of the several subjects reside. Thus the carminative virtue of the warm seeds, the diuretic of juniper berries, the emmenagogue of savin, the nervine of rosemary, the stomachic of mint, the antiscorbutic of scurvy-grass, the cordial of aromatics, &c. are supposed to be concentrated in their oil.

There is another remarkable difference in essential oils, the foundation of which is less obvious, viz. the degree of their pungency and heat. These are by no means in proportion, as might be expected, to those of the subject they were drawn from. The oil of cinnamon, for instance, is very pungent and fiery; in its undiluted state it is almost caustic; whereas cloves, a spice which in substance is far more pungent than the other, yields an oil which is far less so. This difference seems to depend partly on the quantity of oil afforded, cinnamon yielding much less than cloves, and consequently having its active matter concentrated into a smaller volume; partly, on a difference in the nature of the active parts themselves; for though

essential

essential oil contain always the specific odour and flavour of their subjects, whether grateful or ungrateful, they do not always contain the whole pungency; this resides frequently in a more fixed resinous matter, and does not rise with the oil. After the distillation of cloves, pepper, and some other spices, a part of their pungency is found to remain behind: a simple tincture of them in rectified spirit of wine is even more pungent than their pure essential oils.

The more grateful oils are frequently used for reconciling to the stomach medicines of themselves disgustful. It has been customary to employ them as correctors for the resinous purgatives; an use which they do not seem to be well adapted to. All the service they can here be of, is, to make the resin sit more easily at first on the stomach: far from abating the irritating quality on which the virulence of its operation depends, these pungent oils superadd a fresh stimulus.

Essential oils are never given alone, on account of their extreme heat and pungency; which in some is so great, that a single drop let fall upon the tongue, produces a gangrenous eschar. They are readily imbibed by pure dry sugar, and in this form may be conveniently exhibited. Ground with eight or ten times their weight of the sugar, they become soluble in aqueous liquors, and thus may be diluted to any assigned degree. Mucilages also render them miscible with water into an uniform milky liquor. They dissolve likewise in spirit of wine; the more fragrant in an equal weight, and almost all of them in less than four times their own quantity; these solutions may be either taken on sugar, or mixed with syrups, or the like: on mixing them with water, the liquor grows milky, and the oil separates.

The more pungent oils are employed externally against paralytic complaints, numbness, pains, and aches, cold tumours, and in other cases where particular parts require to be heated or stimulated. The tooth-ach is sometimes relieved by a drop of these almost caustic oils, received on cotton, and cautiously introduced into the hollow tooth.

OLEUM ESSENTIALE.

Lond.

Essential oil of

1. *Anisi*, Anise,
2. *Carui*, Carraway
3. *Lavendulæ*, Lavender
4. *Menthæ piperitidis*, Peppermint
5. *Menthæ sativæ*, Spearmint
6. *Origani*, Origanum
7. *Pulegii*, Pennyroyal
8. *Rorismarini*, Rosemary
9. *Baccæ juniperi*, Juniper berry
10. *Radicis sassafras*, Saffafras root

Let these oils be drawn off by distillation, from an alembic with a large refrigeratory; but, to prevent an empyreuma, water must be added to the ingredients; in which they must be macerated before distillation.

The water which comes over with the oil in distillation is to be kept for use.

OLEA ESSENTIALIA.

Edinb.

Essential oils.

Herbæ menthæ sativæ, of the herbs of garden mint.

—menthæ piperitidis, of peppermint.

—sabinæ, of savin.

Summitatum rorismarini, of the tops of rosemary.

Spicarum florentium lavendulæ, of the flowering spikes of lavender.

Seminum anisi, of aniseeds.

Baccarum juniperi, of juniper-berries.

Radicis sassafras, of Saffafras root.

Piperis Jamaicenſis, of Jamaica pepper.

These are prepared almoſt in the ſame manner as the ſimple diſtilled waters, excepting that for procuring the oil a ſomewhat leſs quantity of water is to be uſed. Seeds and woody matters are firſt to be bruiſed or raſped. The oil riſes with the water; and as it is lighter or heavier, ſwims on the ſurface, or ſinks to the bottom, from which it is afterwards to be ſeparated.

It is, however, to be remarked, that, in preparing theſe diſtilled waters and oils, ſo many varieties muſt neceſſarily take place from the goodneſs of the ſubject itſelf, its texture, the time of the year, and ſuch like circumſtances, that a certain and general rule, which ſhould ſtrictly apply to each example, can ſcarcely be laid down; wherefore we have only explained the general method, leaving many things to be varied by the judgement of the operator.

To the directions for preparing theſe eſſential oils given by the London and Edinburgh colleges, we ſhall here next ſubjoin a few remarks on their medical properties.

OLEUM SEMINUM ANISI ESSENTIALE.

Lond. Edin.

Eſſential Oil of Aniſeeds.

This oil poſſeſſes the taſte and ſmell of the aniſeeds in perfection. It is one of the mildeſt of the diſtilled oils; 15 or 20 drops may be taken at a time without danger, tho' common practice rarely goes ſo far as half this number. Its ſmell is extremely durable and diffuſive; milk drawn from the breaſt after taking it, is found impregnated with its odour; and poſſibly this may be, in part, the foundation of the pectoral virtues uſually aſcribed to it: in flatulencies and colics, it is ſaid by ſome to be leſs effectual than the ſeeds themſelves.

It is remarkable of this oil, that it congeals, even when the air is not ſenſibly cold, into a butyraceous conſiſtence: and hence, in the diſtillation of it, the operator ought not to be over-ſolicitous in keeping the water in the refrigeratory too cool: it behoves him rather to let it grow ſomewhat hot, particularly towards the end of the proceſs; otherwiſe the oil congealing, may ſo ſtop up the worm, as to endanger blowing off the head of the ſtill, or at leaſt a conſiderable quantity of oil will remain in it.

OLEUM SEMINUM CARUI ESSENTIALE.

Lond.

Eſſential Oil of Carroway Seeds.

The flavour of this exactly reſembles that of the caraway itſelf. It is a very hot and pungent oil; a ſingle drop is a moderate doſe, and five or ſix is a very large one. It is not unfrequently uſed as a carminative; and ſuppoſed by ſome to be peculiarly ſerviceable for promoting urine, to which it communicates ſome degree of its ſmell.

OLEUM FLORUM LAVENDULÆ ESSENTIALE.

Lond. Edin.

Eſſential Oil of Lavender Flowers.

This oil, when in perfection, is very limpid, of a pleaſant yellowiſh colour, extremely fragrant, poſſeſſing in an eminent degree the peculiar ſmell generally admired in the flowers. It is a medicine of great uſe, both externally and internally, in paralytic and lethargic complaints, rheumatic pains, and debilities of the nervous ſyſtem. The doſe is from one drop to five or ſix.

Laven-

Lavender flowers yield the most fragrant oil, and considerably the largest quantity of it, when they are ready to fall off spontaneously, and the leaves begin to show themselves: the seeds give out extremely little. The flowers may be separated from the rest of the plant, by drying it a little, and then gently beating it: they should be immediately committed to distillation, and the process conducted with a well regulated gentle heat; too great heat would not only change the colour of the oil, but likewise make a disagreeable alteration in its smell.

OLEUM MENTHÆ PIPERITIDIS ESSENTIALE.

Lond. Edinb.

Essential oil of the leaves of Peppermint.

This possesses the smell, taste, and virtues of the peppermint in perfection; the colour is a pale greenish yellow. It is a medicine of great pungency and subtilty; and diffuses, almost as soon as taken, a glowing warmth through the whole system. In colics, accompanied with great coldness, and in some hysteric complaints, it is of excellent service. A drop or two are in general a sufficient dose.

OLEUM MENTHÆ SATIVÆ ESSENTIALE.

Lond. Edinb.

Essential oil of the leaves of common Mint.

This oil smells and tastes strongly of the mint, but is in both respects somewhat less agreeable than the herb itself. It is an useful stomachic medicine; and not unfrequently exhibited in want of appetite, weakness of the stomach, retchings to vomit, and other like disorders, when not accompanied with heat or inflammation: two or three drops, or more, are given for a dose. It is likewise employed externally for the same purposes; and is an useful ingredient in the stomachic plaster of the shops.

OLEUM ORIGANI ESSENTIALE.

Lond.

Essential oil of the leaves of Origanum.

This oil has a very pungent acrimonious taste, and a penetrating smell. It has been chiefly employed externally as an errhine and for easing pains of the teeth.

OLEUM PULEGII ESSENTIALE.

Lond.

Essential oil of the leaves of Penny-royal.

This oil, in smell and taste, resembles the original plant; the virtues of which it likewise possesses. It is given in hysteric cases, from one to four or five drops.

OLEUM RORISMARINI. ESSENTIALE.

Lond. Edinb.

Essential oil of Rosemary.

The oil of rosemary is drawn from the plant in flower. When in perfection, it is very light and thin, pale, and almost colourless; of great fragrancy, though not quite so agreeable as the rosemary itself. It is recommended, in the dose of a few drops, in nervous and hysteric complaints. Boerhaave holds it in great esteem against epilepsies, and suppressions of the uterine purgations occasioned by weakness and inactivity.

OLEUM BACCARUM JUNIPERI ESSENTIALE.

Lond. Edinb.

Essential oil of Juniper-berries.

This oil is a very warm and pungent one; of a strong flavour, not un-

unlike that of the berries. In the dose of a drop or two, it proves a serviceable carminative and stomachic; in one of six, eight, or more, a stimulating, detergent, diuretic, and emmenagogue: it seems to have somewhat of the nature of the turpentines, or their distilled oil; like which it communicates a violet smell to the urine.

The oil of these berries resides partly in vesicles spread through the substance of the fruit, and partly in little cells contained in the seeds: when the berry is dry, and the oil hardened into a resinous substance, it becomes visible, on breaking the seeds, in form of little transparent drops. In order therefore to obtain this oil to advantage, we ought, previous to the distillation, to bruise the berry thoroughly, so as to break the seeds, and entirely lay open the oily receptacles.

OLEUM SASSAFRAS ESSENTIALE.

Lond. Edinb.

Essential oil of Sassafras.

This is the most ponderous of all the known essential oils, but rises in distillation with sufficient ease: it appears limpid as water, has a moderately pungent taste, a very fragrant smell, exactly resembling that of the sassafras. It stands greatly commended as a sudorific, and for purifying the blood and juices: it is likewise supposed to be of service in humoral asthmas and coughs. The dose is from one drop to eight or ten; though Geoffroy goes as far as twenty.

The decoction remaining after the distillation of the oil, affords by inspissation an useful extract, of a mild, bitterish, subastringent taste. Hoffman says, he has given it with great benefit, in doses of a scruple, as a corroborant in cachectic cases, in the decline of intermitting fevers, and for abating hypochondriacal spasms.

OLEUM SABINÆ. ESSENTIALE.

Lond. Edinb.

Essential oil of Savin leaves.

Savin is one of the plants which, in former editions of the Edinburgh Pharmacopœia, were directed to be lightly fermented before the distillation: this, however, is not very necessary; for savin yields, without fermentation, and even without any such maceration, a very large quantity of oil. The oil of savin is a celebrated uterine and emmenagogue: in cold phlegmatic habits, it is undoubtedly a medicine of great service, though not capable of performing what it has been often represented to do. The dose is, two or three drops, or more.

OLEUM ESSENTIALE PIPERIS JAMAICENSIS.

Edinb.

Essential oil of Jamaica Pepper.

This is a very elegant oil, and may be used as a succedaneum to those of some of the dearer spices. It is of a fine pale colour; in flavour more agreeable than the oil of cloves, and not far short of that of nutmegs. It sinks in water, like the oils of some of the eastern spices.

OLEUM PETROLEI,

Lond.

Oil of fossil Tar.

Distil fossil tar, the *bitumen petroleum*, in a sand heat.

The oil obtained from this tar will be more or less thin according to the continuance of the distillation; and by its continuance the tar will at last be reduced to a black coal; and then the oil will be pretty deep in co-

colour, though perfectly fluid. This oil has a property similar to that of the tincture of nephritic wood in water, appearing blue when looked upon, but of an orange colour when held between the eye and the light. By long keeping it loses this property. It is less disagreeable than some of the other empyreumatic oils which had formerly a place in our pharmacopœia, such as the oleum lateritium, though very acrid and stimulating.

OLEUM TEREBINTHINÆ.

Lond.

Oil of Turpentine.

Take of

Common turpentine, five pounds.

Water, four pints.

Distil the turpentine with the water from an alembic of copper. After the distillation of the oil, what remains is yellow resin.

OLEUM TEREBINTHINÆ RECTIFICATUM.

Lond.

Rectified oil of Turpentine.

Take of

Oil of turpentine, one pound;

Water, four pints.

Distil.

The process here proposed for rectifying this oil, is not only tedious but accompanied with danger. For unless the luting be very close, some of the vapour will be apt to get through; and if this catch fire, it will infallibly burst the vessels. This rectified oil, which in many pharmacopœias is styled æthereal, does not considerably differ in specific gravity, smell, taste, or medical qualities, from the former.

The spirit of turpentine, as this essential oil has been styled, is not unfrequently taken internally as a diuretic and sudorific. And in these ways it has sometimes a considerable effect when taken even to the extent of a few drops only. It has, however, been given in much larger doses, especially when mixed with honey. Recourse has principally been had to such doses in cases of chronic rheumatism, particularly in those modifications of it which are styled *sciatica* and *lumbago*. But they have not been often successful, and sometimes they have had the effect of inducing bloody urine.

OLEUM ANIMALE.

Lond.

Animal oil.

Take of

Oil of hartshorn, one pound.

Distil three times.

OLEUM e CORNUBUS RECTIFICATUM, five OLEUM ANIMALE.

Edinb.

Rectified oil of Horns, or *animal oil.*

Take of

Empyreumatic oil, newly distilled from the horns of animals, as much as you will.

Distil with a gentle heat, in a matrass furnished with a head, as long as a thin colourless oil comes over, which is to be freed of alkaline salt and spirit by means of water. That this oil may remain limpid and good, it ought to be put up in small phials, completely filled and inverted, having previously put into each phial a few drops of water, that on inverting it the water may interpose itself between the oil and the mouth of the phial.

The quantity of oil employed in this process should be considerable: for it leaves so much black matter behind in the several distillations, that it is reduced at last to a small portion of its original quantity. It is said, that the product is rendered more lim-

limpid, by mixing the oil with quicklime into a soft paste; the lime keeping down more of the gross matter than would remain without such an addition. The quicklime may here also, perhaps, act by abstracting fixed air; to the absorption of which we are disposed to refer in some measure the spoiling of the oil on exposure to the atmosphere.

The oil was first introduced by Dippelius, whose name it has since generally borne.

Animal oils thus rectified, are thin and limpid, of a subtle, penetrating, not disagreeable smell and taste. They are strongly recommended as anodynes and antispasmodics, in doses from 15 to 30 drops. Hoffman reports, that they procure a calm and sweet sleep, which continues often for 20 hours, without being followed by any languor or debility, but rather leaving the patient more alert and cheerful than before: that they procure likewise a gentle sweat, without increasing the heat of the blood: that given to 20 drops or more, on an empty stomach, six hours before the accession of an intermittent fever, they frequently remove the disorder; and that they are likewise a very generous remedy in inveterate and chronical epilepsies, and in convulsive motions, especially if given before the usual time of the attack, and preceded by proper evacuations.

The empyreumatic oils of vegetables, rectified in the same manner by repeated distillations, suffer alike change with the animal; losing their dark colour and offensive smell, and becoming limpid, penetrating, and agreeable: in this state they are supposed, like the animal oil, to be anodyne, antispasmodic, and diaphoretic, or sudorific. It is observable, that all the empyreumatic oils dissolve in spirit of wine, and that the oftener they are rectified or redistilled, they dissolve the more readily; a circumstance in which they differ remarkably from essential oils, which, by repeated distillations, become more and more difficult of solution.

How far these preparations really possess the virtues that have been ascribed to them, has not yet been sufficiently determined by experience; the tediousness and trouble of the rectification having prevented their coming into general use, or being often made. They are liable also to a more material inconvenience in regard to their medicinal use, precariousness in their quality; for how perfectly soever they be rectified, they gradually lose, in keeping, the qualities they had received from that process, and return more and more towards their original fetid state.

OLEUM ET SAL SUCCINI.

Edinb.

Oil and salt of Amber.

Take

Equal parts of amber reduced to a powder and of pure sand.

Mix them, and put them into a glass retort, of which the mixture may fill one half: then adapt a large receiver, and distil in a sand-furnace, with a fire gradually increased. At first a spirit will come over, with some yellow oil; then more yellow oil, along with a little salt: and on raising the heat, more of the salt, with a reddish and black coloured oil.

When the distillation is finished, empty the liquor out of the receiver; and having collected together the salt which adheres to the sides, dry it by gentle pressure between the folds of blotting paper; then purify it by solution in warm water and by crystallization.

OLEUM

OLEUM SUCCINI RECTIFICATUM.

Edinb.

Distil the oil in a glass retort with six times its quantity of water till two thirds of the water have passed into the receiver; then separate the rectified oil from the water, and keep it for use in close shut vessels.

OLEUM SUCCINI RECTIFICATUM.

Lond.

Rectified Oil of Amber.

Take of

Oil of amber, one pound.

Distil three times.

The London College introduce their directions for the preparation of the sal and oleum succini at an after part of their work, under the head of sales. Here we may only observe, that they direct it to be prepared from the amber alone, without the intervention of sand. But this makes no essential difference in the article when prepared.

The Edinburgh College have rejected what was formerly called the spirit, as being nothing else than the watery parts, fraught with the inert impurities of the bitumen and a very small portion of the salt. In the distillation of amber, the fire must for some time be continued gentle, scarce exceeding the degree at which water boils, till the aqueous phlegm and thin oil have arisen; after which it is to be slowly increased. If the fire were urged hastily, the amber would swell up, and rises in its whole substance into the receiver, without undergoing the required decomposition or separation of its parts. When sand or similar intermedia are mixed with it, it is less subject to this rarefaction, and the fire may be raised somewhat more expeditiously: tho' this little advantage is perhaps more than counterbalanced by the room which the sand takes up in the retort.

Our chemists generally leave the receiver unluted, that it may be occasionally removed as the salt rises and concretes in the neck of the retort; from whence it is every now and then scraped out to prevent the oil from carrying it down into the receiver. When a gross thick oil begins to arise, and no more salt appears, the distillation is stopt, tho' it might, perhaps, be continued longer to advantage.

Mr Pott informs us (in a curious dissertation on the salt of amber, published in the ninth volume of the Memoirs of the Academy of Sciences of Berlin), that the Prussian workmen, who prepare large quantities of this salt for exportation, from cuttings and small pieces of amber, perform the distillation without any intermedium, and in an open fire: that sweeping out the salt from the neck of the retort being found too troublesome, they suffer the oil to carry it down into to the receiver, and afterwards separate it by means of bibulous paper, which imbibes the oil, and leaves the salt dry; which paper is afterwards squeezed and distilled: that they continue the distillation till all that can be forced over has arisen, taking care only to catch the last thick oil in a separate receiver; and that from this they extract a considerable quantity of salt, by shaking it in a strong vessel with three or four fresh portions of hot water, and evaporating and crystallising the filtered waters.

The spirit of amber so called, is no more than a solution of a small

portion of the salt in phlegm or water; and therefore is very properly employed for dissolving the salt in order to its crystallization.

The salt, freed from as much of the oil as spongy paper will imbibe, retains so much as to appear of a dark brown colour. Mr Pott says, the method he has found to succeed best, and with least loss, is, to dissolve the salt in hot water, and put into the paper, through which the solution is to be filtered, a little cotton slightly moistened with oil of amber: this, he says, detains a good deal of the oil of the salt, and the solution passes through the more pure. The liquor being evaporated with a very gentle fire, as that of a water bath, and set to shoot, the first crystals prove transparent, with a slight yellowish tinge; but those which follow are brown, oily, and bitter, and are therefore to be further depurated in the same manner. The whole quantity of crystals amounts to about one-thirtieth of the weight of the crude amber employed. By sublimation from sea-salt, as directed in former editions of the Edinburgh Pharmacopœia, the salt is thought to be more perfectly and more expeditiously purified: Mr Pott objects to sublimation, that a part of the salt is decomposed by it, a coaly matter being left behind, even though the salt was previously purified by crystallization: it may be presumed, however, that this coal proceeds rather from the burning of some remains of the oily matter, than from the decomposition of any part of the true salt.

Pure salt of amber has a penetrating, subastringent acid, taste. It dissolves both in water and in rectified spirit; though not readily in either, and scarcely at all in the latter without the assistance of heat: of cold water in summer, it requires for its solution about twenty times its own weight: of boiling water, only about twice its weight. Exposed in a glass vessel, to a heat little greater than that of boiling water, it first melts, then rises in a white fume, and concretes again in the upper part of the glass into fine white flakes, leaving, unless it was perfectly pure, a little coaly matter behind. It effervesces with alkalies both fixed and volatile, and forms with them neutral compounds, much resembling those composed of the same alkalies and vegetable acids. Mixed with acid liquors, it makes no sensible commotion. Ground with fixed alkaline salts, it does not exhale any urinous odour. By these characters, it is conceived this salt may be readily distinguished from all the other matters that have been mixed with, or vended for it. With regard to its virtue, it is accounted aperient, diuretic, and, on account of its retaining some portion of the oil, antihysteric: Boerhaave gives it the character of *diureticorum et antihystericorum princeps*. Its great price, however, has prevented its coming much into use; and perhaps its real virtues are not equal to the opinion generally entertained of them.

The rectified oil has a strong bituminous smell, and a pungent acrid taste. Given in a dose of ten or twelve drops, it heats, stimulates, and promotes the fluid secretions: It is chiefly celebrated in hysterical disorders, and in deficiencies of the uterine purgations. Sometimes it is used externally, in liniments for weak or paralytic limbs, and rheumatic pains. This oil differs from all those of the vegetable kingdom, and agrees with the mineral petrolea, in not being soluble, either in its rectified or unrectified state, by spirit of wine, fixt alkaline lixivia, or volatile alkaline spirits; the oil, after long digestion or agitation; separating

parating as freely as common oil does from water.

OLEUM VINI.

Lond.

Oil of Wine.

Take of
Alcohol,
Vitriolic acid, of each one pint.

Mix them by degrees, and diſtil; taking care that no black foam paſſes into the receiver. Separate the oily part of the diſtilled liquor from the *volatile vitriolic acid.*—To the oily part add as much water of *pure kali* as is ſufficient to take away the ſulphureous ſmell: then diſtil the *æther* with a gentle heat. The oil of wine remains in the retort, ſwimming on the watery liquor; from which it is to be ſeparated.

Some caution is requiſite in mixing the two liquors, that the conſequent heat and ebullition, which would not only diſſipate a part of the mixture, but hazard the breaking of the veſſel and the hurt of the operator, may be avoided. The ſecureſt way is to add the vitriolic acid to the ſpirit of wine by a little at a time, waiting till the firſt addition be incorporated before another quantity be put in. By this, the enſuing heat is inconſiderable, and the mixture is effected without inconvenience.

OLEUM ABSINTHII DESTILLATUM.

Roſſ.

Eſſential Oil of Wormwood.

Let the freſh leaves of wormwood ſlightly dried be macerated with a ſufficient quantity of water, and then ſubject to diſtillation; and let the oil which comes over be ſeparated from the water which accompanies it.

This is one of the more ungrateful oils: it ſmells ſtrongly of the wormwood, and contains its particular nauſeous taſte, but has little or nothing of its bitterneſs, this remaining entire in the decoction left after the diſtillation: its colour, when drawn from the freſh herb, is a dark green; from the dry, a browniſh yellow. This oil is recommended by Hoffman as a mild anodyne in ſpaſmodic contractions: for this purpoſe, he directs a dram of it to be diſſolved in an ounce of rectified ſpirit of wine, and ſeven or eight drops of the mixture taken for a doſe in any convenient vehicle. Boerhaave greatly commends in tertian fevers, a medicated liquor compoſed of about ſeven grains of this oil ground firſt with a dram of ſugar, then with two drams of the ſalt of wormwood, and afterwards diſſolved in ſix ounces of the diſtilled water of the ſame plant: two hours before the fit is expected, the patient is to bathe his feet and legs in warm water, and then to drink two ounces of the liquor every quarter of an hour till the two hours are expired: by this means, he ſays, all caſes of this kind are generally cured with eaſe and ſafety, provided there be no ſcirrhoſity or ſuppuration. The oil of wormwood is employed chiefly as a vermifuge; and for this purpoſe is ſometimes applied both externally to the belly, and taken internally; it is moſt conveniently exhibited in the form of pills, into which it may be reduced by mixing it with crumb of bread.

In the ſame manner with the oleum abſinthii, the following oils, mentioned on the authority of the pharmarcopœia Roſſica, are alſo directed to be prepared.

OLEUM AURANTII CORTICUM.

Ross.

Essential Oil of Orange-skins.

OLEUM CORTICUM LIMONUM.

Essence of Lemons.

Of these essential oils, as existing in a separate state in the growing vegetable, we have already offered some observations. They are obtained in a very pure state by distillation. They are now rejected from our pharmacopœias, being employed rather as perfumes than as medicines. This is particularly the case with the essence of lemons, which is a pleasant oil, of a fine smell, very near as agreeable of that of the fresh peel; it is one of the lightest and most volatile essential oils we have, perfectly limpid, and almost colourless. It is taken in doses of two or three drops, as a cordial, in weakness of the stomach, &c. tho' more frequently used as a perfume. It gives a fine flavour to the officinal spiritus volatilis aromaticus of the Edinburgh college, or the spiritus ammoniæ compositus, as it is now styled by that of the London: and it may be remarked, that it enters this formula of both colleges, although neither of them has given it a place among their preparations, probably as it is one of those articles which the apothecary rarely prepares for himself. When soap is given in the form of pills, by the addition of a few drops of this oil they are thought to sit more easily on the stomach.

OLEUM CARYOPHYLLORUM AROMATICORUM ESSENTIALE.

Ross.

Essential Oil of Cloves.

This oil is so ponderous as to sink in water, and is not easily elevated in distillation: if the water which comes over be returned on the remaining cloves, and the distillation repeated, some more oil will generally be obtained, though much inferior in quality to the first. The oil of cloves is usually described as being "in taste excessively hot and "fiery, and of a gold yellow co-"lour," *(Boerh. proceff.)* Such indeed is the composition which we receive under this name from Holland; but the genuine oil of cloves is one of the milder oils: it may be taken with great safety (duly diluted) to the quantity of ten or twelve drops or more. Nor is its colour at all yellow, unless it has been long and carelessly kept, or distilled by too violent a fire: when in perfection, it is limpid and colourless, of a pleasant, moderately warm and pungent taste, and a very agreeable smell, much resembling that of the spice itself. The Dutch oil of cloves contains a large quantity of expressed oil, as evidently appears upon examining it by distillation. This, however, cannot be the addition to which it owes it acrimony. A mean proportion of a resinous extract of cloves communicates to a large one of oil a deep colour, and a great degree of acrimony.

OLEUM CHAMÆMELI FLORUM.

Ross.

Essential Oil of Camomile.

An oil of camomile had formerly a place in our pharmacopœias made by infusion of the recent plant, and its flowers in olive oil; and again separating it by pressure after impregnating it with the active parts of the plant by heat. This, however, was intended only for external application; but the essential oil is meant to be used internally.

It

It is a very pungent oil, of a strong not ungrateful smell, resembling that of the flowers: its colour is yellow, with a cast of greenish or brown. It is sometimes given in the dose of a few drops, as a carminative, in hysteric disorders, and likewise as a vermifuge: it may be conveniently made into pills with crumb of bread.

OLEUM CINNAMOMI CORTICIS.

Ross.

Oil of Cinnamon.

This valuable oil is extremely hot and pungent, of a most agreeable flavour, like that of the cinnamon itself. In cold languid cases, and debilities of the nervous system, is is one of the most immediate cordials and restoratives. The dose is one, two, or three drops: which must always be carefully diluted by the mediation of sugar, &c.; for so great is the pungency of this oil, that a single drop let fall upon the tongue, undiluted, produces, as Boerhaave observes, a gangrenous eschar. In the distillation of this oil, a smart fire is required; and the low head, with a channel round it recommended for the distillation of the less volatile oils, is particularly necessary for this, which is one of the least volatile, and which is afforded by the spice in exceeding small quantity. The distilled water retains no small portion of the oil; but this oil being very ponderous, great part of it subsides from the water, on standing for two or three weeks in a cool place.

OLEUM SEMINUM FŒNICULI ESSENTIALE.

Ross.

Essential Oil of Fennel Seeds.

The oil obtained from sweet fennel seeds is much more elegant and agreeable than that of the common fennel. It is one of the mildest of these preparations: it is nearly of the same degree of warmth with that of aniseeds; to which it is likewise similar in flavour, though far more grateful. It is given from two or three drops to ten or twelve, as a carminative, in cold indispositions of the stomach; and in some kinds of coughs for promoting expectoration.

OLEUM LIGNI RHODII ESSENTIALE.

Ross.

Essential Oil of Rhodium.

This oil is extremely odoriferous, and principally employed as a perfume in scenting pomatums, and the like. Custom has not as yet received any preparation of this elegant aromatic wood into internal use among us.

OLEUM DISTILLATUM MACIS.

Ross.

Essential Oil of Mace.

The essential oil of mace is moderately pungent, very volatile, and of a strong aromatic smell, like that of the spice itself. It is thin and limpid, of a pale yellowish colour, with a portion of thicker and darker coloured oil at the bottom. This oil taken internally to the extent of a few drops, is celebrated in vomiting, singultus, and colic pains; and in the same complaints it has also been advised to be applied externally to the umbilical region. It is, however, but rarely to be met with in the shops.

OLEUM MAJORANÆ ESSENTIALE.

Ross.

Essential Oil of Marjoram.

This oil is very hot and penetrating, in flavour not near so agree-

able

able as the marjoram itself; when in perfection, it is of a pale yellow colour; by long keeping, it turns reddish: if distilled with too great a heat, it rises of this colour at first. It is supposed by some to be peculiarly serviceable in relaxations, obstructions, and mucous discharges of the uterus: the dose is one or two drops.

OLEUM NUCIS MOSCHATÆ ESSENTIALE.

Ross.

Essential Oil of Nutmegs.

The essential oil of nutmegs possesses the flavour and aromatic virtues of the spice in an eminent degree. It is similar in quality to the oil of mace, but somewhat less grateful.

OLEUM RUTÆ ESSENTIALE.

Ross.

Essential Oil of Rue.

The oil of rue has a very acrid taste, and a penetrating smell, resembling that of the herb, but rather more unpleasant. It is sometimes made use of in hysteric disorders and as an anthelmintic; and also in epilepsies proceeding from a relaxed state of the nerves.

Rue yields its oil very sparingly. The largest quantity is obtained from it when the flowers are ready to fall off, and the seeds begin to show themselves: suitable maceration, previous to the distillation, is here extremely necessary.

OLEUM DISTILLATUM SATUREIÆ.

Ross.

Essential Oil of Savory.

Savory yields on distillation a small quantity of essential oil, of great subtility and volatility; and it is unquestionably an active article, but among us it is not employed in medicine.

OLEUM DISTILLATUM TANACETI.

Ross.

Essential Oil of Tansy.

Tansy yields on distillation an oil of a greenish colour inclining to yellow. It smells strongly of the herb, and possesses at least its aromatic property in a concentrated state.

OLEUM CERÆ.

Dan.

Oil of Wax.

Melt yellow bees-wax with twice its quantity of sand, and distil in a retort placed in a sand-furnace. At first an acid liquor rises, and afterwards a thick oil, which sticks in the neck of the retort, unless it be heated by applying live coal. This may be rectified into a thin oil, by distilling it several times, without addition, in a sand-heat.

Boerhaave directs the wax, cut in pieces, to be put into the retort first, so as to fill one half of it; when as much sand may be poured thereon as will fill the remaining half. This is a neater, and much less troublesome way, than melting the wax, and mixing it with the sand before they are put into the retort. The author above mentioned highly commends this oil against roughness and chaps of the skin, and other like purposes: the college of Strasburgh speak also of it being given internally, and say it is a powerful diuretic *(ingens diureticum)* in doses from two to four or more drops; but its disagreeable smell has prevented its coming into use among us.

The number of essential oils which have

have now a place in the London and Edinburgh pharmacopœias, and likewise in the foreign ones of modern date, is much less considerable than formerly; and perhaps those still retained afford a sufficient variety of the more active and useful oils. Most of the oils mentioned above, particularly those which have a place in the London and Edinburgh pharmacopœias, are prepared by our chemists in Britain, and are easily procurable in a tolerable degree of perfection: But the oils from the more expensive spices, though still introduced among the preparations in the foreign pharmacopœias, are, when employed among us, usually imported from abroad.

These are frequently so much adulterated, that it is not an easy matter to meet with such as are at all fit for use. Nor are these adulterations easily discoverable. The grosser abuses, indeed, may be readily detected: thus, if the oil be mixed with spirit of wine, it will turn milky on the addition of water; if with expressed oils, rectified spirit will dissolve the essential, and leave the other behind; if with oil of turpentine, on dipping a piece of paper in the mixture, and drying it with a gentle heat, the turpentine will be betrayed by its smell. But the more subtile artists have contrived other methods of sophistication, which elude all trials of this kind.

Some have looked upon the specific gravity of oils as a certain criterion of their genuineness; and accordingly we have given a table of the gravity of several. This, however, is not to be absolutely depended on: for the genuine oils obtained from the same subjects, often differ in gravity as much as those drawn from different ones. Cinnamon and cloves, whose oils usually sink in water, yield, if slowly and warily distilled, an oil of great fragrancy, which is nevertheless specifically lighter than the aqueous fluid employed in the distillation of it; while, on the other hand, the last runnings of some of the lighter oils prove sometimes so ponderous as to sink in water.

As all essential oils agree in the general properties of solubility in spirit of wine, indissolubility in water, miscibility with water by the intervention of certain intermedia, volatility in the heat of boiling water, &c. it is plain that they may be variously mixed with each other, or the dearer sophisticated with the cheaper, without any possibility of discovering the abuse by any trials of this kind. And, indeed, it would not be of much advantage to the purchaser, if he had infallible criteria of the genuineness of every individual oil. It is of as much importance that they be *good*, as that they be *genuine*; for genuine oils, from inattentive distillation and long and careless keeping, are often weaker both in smell and taste than the common sophisticated ones.

The smell and taste seem to be the only certain tests of which the nature of the thing will admit. If a bark should have in every respect the appearance of good cinnamon, and should be proved indisputably to be the genuine bark of the cinnamon tree; yet if it want the cinnamon flavour, or has it but in a low degree, we reject it; and the case is the same with the oil. It is only from use and habit, or comparisons with specimens of known quality, that we can judge of the goodness, either of the drugs themselves or of their oils.

Most of the essential oils indeed, are too hot and pungent to be tasted with safety; and the smell of the

the subject is so much concentrated in them, that a small variation in this respect is not easily distinguished: but we can readily dilute them to any assignable degree. A drop of the oil may be dissolved in spirit of wine, or received on a bit of sugar, and dissolved by that intermedium in water. The quantity of liquor which it thus impregnates with its flavour, or the degree of flavour which it communicates to a certain determinate quantity, will be the measure of the degree of goodness of the oil.

We shall here subjoin the result of some experiments, shewing *the quantity of essential oil obtained from different vegetables*, reduced into the form of a table. The first column contains the names of the respective vegetable substances: the second, the quantity of each of which was submitted to the distillation; and the third, the quantity of oil obtained. In every other part of this book, where *pound* weights are mentioned, the Troy pound of twelve ounces is meant: but these experiments having been all made by a pound of sixteen ounces, it was thought expedient to set down the matter of fact in the original weights; especially as the several materials, in the large quantity commonly required for the distillation of oils, are purchased by weights of the same kind. But to remove any ambiguity which might arise from hence, and enable the reader to judge more readily of the product, a reduction of the weights is given in the next column; which shews the number of parts of each of the subjects from which one part of oil was obtained. To each article is affixed the author's name from whom the experiment was taken. The different distillations of one subject, several of which are inserted in the table, shew how variable the product of oil is, and that the exotic spices, as well as our indigenous plants, do not always contain the same proportion of this active principle; though it must be observed, also, that part of the differences may probably arise from the operation itself having been more or less carefully performed.

TABLE *of the Quantity of* ESSENTIAL OIL *obtained from different* VEGETABLES.

	yielded of essential oil		so that one part of oil was obtained from	
Agallochum wood -	10 lb.	4 dra.	320	*Hoff.*
Angelica root -	1 lb.	1 dra.	128	*Carth.*
Aniſeed - -	1 lb.	4 dra.	32	*Neum.*
Aniſeed - -	3 lb.	1 oz.	48	*Lewis.*
Aniſeed - -	4 lb.	1 oz.	64	*Lewis.*
Aſafœtida - -	4 oz.	1 dra.	32	*Neum.*
Calamus aromaticus -	50 lb.	2 oz.	185	*Hoff.*
Calamus aromaticus -	1 lb.	2 ſcr.	192	*Neum.*
Caraway ſeeds -	4 lb.	2 oz.	32	*Lewis.*
Caraway ſeeds -	2 lb.	9 dra.	28½	*Lewis.*
Caraway ſeeds -	1 cwt.	83 oz.	21½	*Lewis.*
Caroline thiſtle roots -	1 lb.	2½ ſcr.	153	*Neum.*
Cardamom ſeeds -	1 oz.	1 ſcr.	24	*Neum.*
Carrot ſeeds - -	2 lb.	1½ dra.	171	*Lewis.*
Caſcarilla - -	1 lb.	1 dra.	128	*Carth.*
Camomile flowers -	1 lb.	30 gra.	256	*Carth.*
Common camomile flowers	6 lb.	5 dra.	153	*Lewis.*
Wild camomile flowers	1 lb.	20 gra.	384	*Carth.*
Wild camomile flowers	6 lb.	2½ dra.	307	*Lewis.*
Chervil leaves, freſh	9 lb.	30 gra.	2304	*Neum.*
Cedar-wood - -	1 lb.	2 dra.	64	*Marg.*
Cinnamon - -	1 lb.	1 dra.	128	*Sala.*
Cinnamon - -	1 lb.	2½ ſcr.	153	*Neum.*
Cinnamon - -	4 lb.	6 dra.	85⅓	*Lemery.*
Cinnamon - -	1 lb.	2 dra.	64	*Carth.*
Cinnamon - -	1 lb.	8 ſcr.	45½	*Carth.*
Clary ſeeds - -	4 lb.	2 dra.	256	*Lewis.*
Clary in flower, freſh	130 lb.	3½ oz.	594	*Lewis.*
Cloves - -	1 lb.	1½ oz.	10⅔	*Teichm.*
Cloves - - -	1 lb.	2½ oz.	7⅑	*Carth.*
Cloves - -	2 lb.	5 oz.	6⅖	*Hoff.*
Copaiba balſam -	1 lb.	6 oz.	2⅔	*Hoff.*
Copaiba balſam -	1 lb.	8 oz.	2	*Lewis.*
Cummin-ſeed -	1 buſh	21 oz.		*Lewis.*
Dictamnus Creticus -	1 lb.	30 gra.	256	*Lewis.*
Dill-ſeed -	4 lb.	2 oz.	32	*Lewis.*
Elecampane root -	2 lb.	3½ ſcr.	245	*Neum.*
Elemi - - -	1 lb.	1 oz.	16	*Neum.*
Fennel-ſeed, common	2 oz.	1 ſcr.	48	*Neum.*
Fennel-ſeed, ſweet	1 buſh	18 oz.		*Lewis.*
Galangal root -	1 lb.	1 dra.	128	*Carth.*
Garlic root, freſh -	2 lb.	30 gra.	256	*Neum.*
Ginger - -	1 lb.	1 dra.	128	*Neum.*
Horſe-radiſh root, freſh	8 oz.	15 gra.	256	*Neum.*
Hyſſop leaves -	2 lb.	1½ dra.	237	*Neum.*

Hyſſop leaves	1 lb.	yielded of eſſential oil	1½ dra.	so that one part of the oil was obtained from	85 *Carth.*
Hyſſop leaves	1 lb.		2 dra.		64 *Carth.*
Hyſſop leaves, freſh	2 cwt.		6 oz.		597 *Lewis.*
Hyſſop leaves, freſh	10 lb.		3 dra.		427 *Lewis.*
Hyſſop leaves, freſh	30 lb.		9 dra.		427 *Lewis.*
Juniper-berries	8 lb.		3 oz.		42⅔ *Hoff.*
Juniper-berries	1 lb.		3 dra.		42⅔ *Carth.*
Lavender in flower, freſh	48 lb.		12 oz.		64 *Lewis.*
Lavender in flower, freſh	30 lb.		6¾ oz.		72 *Lewis.*
Lavender in flower, freſh	13½ lb.		66 oz.		403 *Lewis.*
Lavender flowers, freſh	2 lb.		4 dra.		64 *Hoff.*
Lavender flowers, dried	4 lb.		2 oz.		32 *Lewis.*
Lavender flowers, dried	2 lb.		1 oz.		32 *Hoff.*
Lavender flowers, dried	4 lb.		3 oz.		21⅓ *Hoff.*
Broad leaved lavender flowers, dry	4 lb.		1 oz.		64 *Hoff.*
	1 lb.		2 dra.		64 *Carth.*
Lovage-root	1 lb.		1 dra.		128 *Carth.*
Mace	1 lb.		5 dra.		25⅗ *Neum.*
Mace	1 lb.		6 dra.		21⅓ *Carth.*
Marjoram in flower, freſh	81 lb.		3¾ oz.		347 *Lewis.*
Marjoram in flower, freſh	13½ lb.		3½ dra.		493 *Lewis.*
Marjoram in flower, freſh	34 lb.		1½ oz.		362 *Lewis.*
Marjoram leaves, freſh	18½ lb.		4 dra.		592 *Lewis.*
Marjoram leaves, dried	4 lb.		1 oz.		64 *Hoff.*
Maſterwort root	1 lb.		30 gra.		256 *Neum.*
Milfoil flowers, dried	14 lb.		4 dra.		448 *Neum.*
Mint in flower, freſh	6 lb.		4½ dra.		177 *Neum.*
Mint leaves, dried	4 lb.		1½ oz.		42⅔ *Hoff.*
Peppermint, freſh	4 lb.		3 dra.		170⅔ *Hoff.*
Myrrh	1 lb.		2 dra.		64 *Hoff.*
Myrrh	1 lb.		3 dra.		42⅔ *Neum.*
Nutmegs	1 lb.		1 oz.		16 *Hoff.*
Nutmegs	1 lb.		1 oz.		16 *Geoff.*
Nutmegs	1 lb.		4 dra.		32 *Neum.*
Nutmegs	1 lb.		6 dra.		21⅓ *Sala.*
Nutmegs	1 lb.		5 dra.		25⅗ *Carth.*
Parſley ſeeds	2 lb.		1 dra.		256 *Carth.*
Parſley leaves, freſh	238 lb.		2 oz.		1904 *Carth.*
Parſnip ſeeds	8 lb.		2 dra.		512 *Carth.*
Pennyroyal in flower, freſh	13 lb.		6 dra.		277 *Carth.*
Black pepper	2 lb.		6 dra.		42⅔ *Carth.*
Black pepper	1 lb.		2½ dra.		82 *Neum.*
Black pepper	1 lb.		4 ſcr.		96 *Carth.*
Black pepper	1 lb.		1 dra.		128 *Heiſter.*
Black pepper	6 lb.		3 dra.		256 *Geoff.*
Pimento	1 oz.		30 gra.		16 *Neum.*
Rhodium wood	1 lb.		3 dra.		42⅔ *Neum.*
Rhodium wood	1 lb.		2 dra.		64 *Sala.*
Rhodium wood	1 lb.		3 dra.		42⅔ *Sala.*
Rhodium wood	1 lb.		3 dra.		42⅔ *Carth.*

Rho-

		yielded of essential oil	so that one part of oil was obtained from	
Rhodium wood -	1 lb.	4 dra.	32	*Carth.*
Rosemary in flower	1 cwt.	8 oz.	224	*Lewis.*
Rosemary leaves -	1 lb.	2 dra.	64	*Sala.*
Rosemary leaves -	1 lb.	3 dra.	42⅔	*Sala.*
Rosemary leaves -	3 lb.	3⅛ dra.	121	*Neum.*
Rosemary leaves -	1 lb.	1 dra.	128	*Carth.*
Rosemary leaves -	1 lb.	1½ dra.	82	*Carth.*
Rosemary leaves, fresh	70 lb.	5 oz.	224	*Lewis.*
Roses - -	100 lb.	4 dra.	3200	*Tachen.*
Roses - -	100 lb.	1 oz.	1600	*Homb.*
Roses - -	12 lb.	30 gra.	768	*Hoff.*
Rue - -	10 lb.	2 dra.	640	*Hoff.*
Rue - -	10 lb.	4 dra.	320	*Hoff.*
Rue in flower -	4 lb.	1 dra.	512	*Hoff.*
Rue in flower -	60 lb.	2½ oz.	507	*Hoff.*
Rue with the seeds -	72 lb.	3 oz.	384	*Hoff.*
Saffron - -	1 lb.	1½ dra.	85⅓	*Vogel.*
Sage leaves -	1 lb.	5 scr.	77	*Carth.*
Sage in flower, fresh	34 lb.	1½ oz.	544	*Lewis.*
Sage of virtue in flower	27 lb.	6 dra.	576	*Lewis.*
Sage of virtue in flower	8 lb.	1½ dra.	681	*Lewis.*
Sassafras - -	6 lb.	1¾ oz.	55	*Hoff.*
Sassafras - -	6 lb.	2 oz.	48	*Neum.*
Savin - -	2 lb.	5 oz.	6⅔	*Hoff.*
Saunders, yellow -	1 lb.	2 dra.	64	*Carth.*
Smallage seeds -	1 lb.	2½ scr.	154	*Neum.*
Stechas in flower, fresh	5¾ lb.	2 dra.	368	*Lewis.*
Thyme in flower, fresh	2 cwt.	5½ oz.	652	*Lewis.*
Thyme in flower, dry	3¾ lb.	1½ dra.	298	*Lewis.*
Lemon-thyme in flower fresh	51 lb.	1¼ oz.	653	*Lewis.*
Lemon-thyme in flower fresh	98 lb.	2½ oz.	627	*Lewis.*
Lemon-thyme, a little dried	104 lb.	3 oz.	555	*Lewis.*
Wormwood leaves, dry	4 lb.	1 oz.	64	*Lewis.*
Wormwood leaves, dry	18 lb.	1½ oz.	192	*Lewis.*
Wormwood leaves, dry	25 lb.	3¼ oz.	114	*Lewis.*
Zedoary - -	1 lb.	1 dra.	128	*Neum.*

CHAP. VII.

SALTS.

ACIDUM VITRIOLICUM DILUTUM.

Lond.

Diluted or weak Vitriolic Acid.

Take of

Vitriolic acid, one ounce by weight;

Distilled water, eight ounces by weight.

Mix them by degrees.

ACIDUM VITRIOLICUM TENUE, vulgo SPIRITUS VITRIOLI TENUIS.

Edin.

Weak Vitriolic Acid, commonly called *weak Spirit of Vitriol.*

Take of

Vitriolic acid, one part;

Water, seven parts.

Mix them.

In the former editions of our pharmacopœias, directions were given for the preparation of the vitriolic acid by the apothecary himself, under the heads of *Spiritus et Oleum Vitrioli*, *Spiritus Sulphuris per campanam*, &c.: But as it is now found that all these modes are expensive, and that this acid may be furnished at a cheaper rate from the trading chemists preparing it on a large scale, it is with propriety that both colleges have now rejected it from the preparations, and introduced it only into the list of the materia medica.

When, however, it is of the degree of concentration there required, it can be employed for very few purposes in medicine. The most simple form in which it can be advantageously employed internally, is that in which it is merely diluted with water: and it is highly proper that there should be some fixed standard in which the acid in this state should be kept. It is, however, much to be regretted, that the London and Edinburgh colleges have not adopted the same standard with respect to strength: For in the one, the strong acid constitutes an eighth; and in the other, only a ninth of the mixture. The former proportion, which is that of the Edinburgh college, we are inclined to prefer, as it gives exactly a dram of acid to the ounce: but the dilution by means of distilled-water, which is directed by the London, is preferable to spring-water; which, even in its purest state, is rarely free from impregnations in part affecting the acid.

The acid of vitriol is the most ponderous of all the liquids we are acquainted with, and the most powerful of the acids. If any other acid be united with a fixt alkaline salt

ſalt or earth, on the addition of the vitriolic, ſuch acid will be diſlodged, and ariſe on applying a moderate heat, leaving the vitriolic in poſſeſſion of the alkali; though without this addition it would not yield to the moſt vehement fire. Mixt with water, it inſtantly creates great heat, inſomuch that glaſs veſſels are apt to crack from the mixture, unleſs it be very ſlowly performed: expoſed to the air, it imbibes moiſture, and ſoon acquires a remarkable increaſe of weight. In medicine, it is employed chiefly as ſubſervient to other preparations: it is alſo frequently mixed with julepa and the like, in ſuch quantity as will be ſufficient to give the liquor an agreeable tartneſs, and it then is a cooling antiſeptic, a reſtringent, and a ſtomachic.

It is particularly uſeful for allaying inordinate actions of the ſtomach, when under the form of ſingultus or vomiting; but its medical properties have already been mentioned under the article ACIDUM *Vitriolicum* in the materia medica.

ACIDUM NITROSUM.

Lond.

Nitrous acid.

Take of

Pureſt nitre, bruiſed, two pounds;

Vitriolic acid, one pound.

Having put the nitre into a glaſs retort, pour on it the ſpirit; then diſtil in a ſand-heat, gradually increaſing the fire, till the ſand-pot becomes of a dull red colour.

HERE the vitriolic acid expels the nitrous, in red corroſive vapours, which begin to iſſue immediately on mixture; and which the operator ought cautiouſly to avoid. A pound of acid of vitriol is ſufficient to expel all the acid from about two pounds of nitre, not from more: ſome direct equal parts of the two. The ſpirit, in either caſe, is in quality the ſame; the difference, in this reſpect, affecting only the reſiduum. If two parts of nitre be taken to one of vitriolic acid, the remaining alkaline baſis of the nitre is completely ſaturated with the vitriolic acid; and the reſult is a neutral ſalt, the ſame with vitriolated tartar, as we ſhall ſee hereafter. If more nitre be uſed, a part of the nitre in ſubſtance will remain blended with this neutral ſalt: if leſs nitre, it cannot afford alkali enough to ſaturate the vitriolic acid, and the reſiduum will not be a neutral ſalt, but a very acid one. In this laſt caſe there is one conveniency; the acid ſalt being readily ſoluble in water, ſo as to be got out without breaking the retort, which the others are not.

THE ſpecific gravity of this is to the weight of diſtilled water as 1,550 to 1,000.

ACIDUM NITROSUM, vulgo SPIRITUS NITRI GLAUBERI.

Edin.

Nitrous acid, commonly called *Glauber's ſpirit of nitre.*

Take of

Pureſt nitre, bruiſed, two pounds;

Vitriolic acid, one pound.

Having put the nitre into a glaſs retort, pour on it the ſpirit; then diſtil in a ſand-heat, gradually increaſing the fire, till the ſand-pot becomes of a dull red colour.

ACIDUM NITROSUM DILUTUM.

Lond.

Diluted or weak nitrous acid.

Take of

Nitrous acid,

Diſtilled water, each one pound.

Mix them.

ACI-

ACIDUM NITROSUM TENUE.

Edin.

Weak nitrous acid.

Take of
Nitrous acid,
Water, equal weights.
Mix them, taking care to avoid the noxious vapours.

In the old editions both of the London and Edinburgh pharmacopœias, directions were given for the preparation of aquafortis ſimplex and duplex; but theſe were no more than different forms of preparing an impure nitrous acid, unfit for medical purpoſes. They are therefore, with propriety, ſuperſeded by the more ſimple formulæ of acidum nitroſum, and acidum nitroſum dilutum, or tenue, mentioned above. In making the diluted acid, diſtilled water is preferable to common water.

The vapour ſeparated during the mixing of nitrous acid and water, is the permanently elaſtic fluid called *nitrous acid air*, which is deleterious to animal life.

The acid of nitre is next in ſtrength to the vitriolic, and diſlodges all others from alkaline ſalts or earths. It differs from all the other acids in deflagrating with inflammable matters: if a ſolution of any inflammable ſubſtance, as hartſhorn, &c. in this acid, be ſet evaporate, as ſoon as the matter approaches to dryneſs, a violent detonation enſues. The chief uſe of this acid is as a menſtruum for certain minerals, and as the baſis of ſome particular preparations to be mentioned hereafter. It has been given likewiſe, diluted with any convenient vehicle, as a diuretic, from ten to fifty drops.

ACIDUM MURIATICUM.

Lond.

Muriatic acid.

Take of
Dry ſea-ſalt, ten pounds;
Vitriolic acid, ſix pounds;
Water, five pounds.
Add the vitriolic acid firſt mixed with the water by degrees, to the ſalt; then diſtil.

The ſpecific gravity of this acid is to diſtilled water as 1,170 to 1,000.

ACIDUM MURIATICUM, vulgo SPIRITUS SALIS MARINI.

Edin.

Muriatic acid, commonly called *Spirit of ſea-ſalt.*

Take of
Sea-ſalt, two pounds;
Vitriolic acid,
Water, each one pound.
Let the ſalt be firſt put into a pot, and brought to a red heat, that the oily impurities may be conſumed; then put it into the retort. Next mix the acid with the water, and when the mixture has cooled, pour it upon the ſalt. Laſtly, diſtil in a ſand heat with a middling heat, as long as any acid comes over.

The marine, or muriatic acid, ariſes, not in red fumes like the nitrous, but in white ones. The addition of water is more neceſſary here than in the foregoing proceſs; the marine vapours being ſo volatile, as ſcarcely to condenſe without ſome adventitious humidity. The acid of vitriol is moſt conveniently mixed with the water in an earthen or ſtone ware veſſel: for unleſs the mixture be made exceedingly ſlowly, it grows ſo hot as to endanger breaking a glaſs one.

The ſpirit of ſea-ſalt is the weakeſt of the mineral acids, but ſtronger than any of the vegetable: It requires

quires a greater fire to diſtil it than that of nitre, yet it is more readily diſſipated by the action of the air. It is uſed chiefly as a menſtruum for the making of other preparations; ſometimes, likewiſe, it is given, properly diluted, as an antiphlogiſtic, aperient, and diuretic, from ten to ſixty or ſeventy drops.

ACETUM DISTILLATUM.

Lond.

Diſtilled vinegar.

Take of

Vinegar five pints.

Diſtil with a gentle fire, in glaſs veſſels, ſo long as the drops fall free from empyreuma.

Edin.

Let eight pounds of vinegar be diſtilled in glaſs veſſels with a gentle heat. Let the two firſt pounds that come over be thrown away as containing too much water; let four pounds next following be reſerved as the diſtilled vinegar. What remains is a ſtill ſtronger acid, but too much acted on by the heat.

This proceſs may be performed either in a common ſtill with its head, or in a retort. The better kinds of wine-vinegar ſhould be uſed: thoſe prepared from malt liquors, however fine and clear they may ſeem to be, contain a large quantity of a viſcous ſubſtance, as appears from the ſlimyneſs and ropyneſs to which they are very much ſubject: this not only hinders the acid parts from riſing freely, but likewiſe is apt to make the vinegar boil over into the recipient, and at the ſame time diſpoſes it to receive a diſagreeable impreſſion from the fire. And indeed, with the beſt kind of vinegar, if the diſtillation be carried on to any great length, it is extremely difficult to avoid an empyreuma. The beſt method of preventing this inconvenience is, if a retort be uſed, to place the ſand but a little way up its ſides, and when ſomewhat more than half the liquor is come over, to pour on the remainder a quantity of freſh vinegar equal to the liquor drawn off. This may be repeated three or four times; the vinegar ſupplied at each time being previouſly heated. The addition of cold liquor would not only prolong the operation, but alſo endanger the breaking of the retort. If the common ſtill be employed, it ſhould likewiſe be occaſionally ſupplied with freſh vinegar in proportion as the ſpirit runs off; and this continued until the proceſs can be conveniently carried no farther: The diſtilled ſpirit muſt be rectified by a ſecond diſtillation in a retort or glaſs alembic; for although the head and receiver be of glaſs or ſtone ware, the acid will contract a metallic taint from the pewter worm.

The reſiduum of this proceſs is commonly thrown away as uſeleſs, although, if ſkilfully managed, it might be made to turn to good account; the moſt acid parts of the vinegar ſtill remaining in it. Mixed with about three times its weight of fine dry ſand, and committed to diſtillation in a retort, with a well-regulated fire, it yields an exceeding ſtrong acid ſpirit, together with an empyreumatic oil, which taints the ſpirit with a diſagreeable odour. This acid is nevertheleſs, without any rectification, better for ſome purpoſes (as a little of it will go a great way) than the pure ſpirit; particularly for making the ſal diureticus or kali acetatum of the London college; for there the oily matter, on which its ill flavour depends, is burnt out by the calcination.

The ſpirit of vinegar is a purer

and

and stronger acid than vinegar itself, with which it agrees in other respects. The medical virtues of these liquors may be seen in the Materia Medica, under the article ACETUM, page 116. Their principal difference from the mineral acid consists in their being milder, less stimulating, less disposed to affect the kidneys and promote the urinary secretions, or to coagulate the animal juices. The matter left after the distillation in glass-vessels, though not used in medicine, would doubtless prove a serviceable detergent saponaceous acid; and in this light it stands recommended by Boerhaave.

ACETUM CONCENTRATUM.

Suec.

Concentrated Vinegar.

Let white wine vinegar be frozen in a wooden vessel in cold winter weather; and let the fluid separated from the ice be preserved for use. It may be considered as sufficiently strong, if one dram of it be capable of saturating a scruple of the fixed vegetable alkali.

THIS is a very easy mode for obtaining the acid of vinegar in a concentrated state, and freed from a considerable portion of its water. But at the same time we do not thus obtain the acid either so much concentrated, or in so pure a state as by the following process.

ACIDUM ACETOSUM.

Lond.

Acetous acid.

Take of

Verdegris, in coarse powder, two pounds.

Dry it perfectly by means of a water-bath saturated with sea-salt; then distil it in a sand-bath, and after that distil the liquor.

Its specific gravity is to that of distilled water as 1,050 to 1,000.

By this process, it may be readily concluded that we obtain the acetous acid in its most concentrated state, and with the least admixture of water. And after the re-distillation, it may also be supposed that it will be free from all mixture of the copper. But the internal use of it has been objected to by some, on the supposition that it may still retain a portion of the metal; and hitherto it has, we believe, been but little employed.

ACIDUM TARTARI CRYSTALLISATUM.

Suec.

Crystallised acid of Tartar.

Take of

Prepared chalk, frequently washed with warm water, two pounds;

Spring water, thirty two pounds.

After slight boiling, by degrees add of cream of tartar seven pounds, or as much as is sufficient for saturation. Removing the vessel from the fire, let it stand for half an hour, then cautiously pour off the clear liquor into a glass vessel. Wash the residuum or tartarous selenites by pouring water on it three or four times. To this residuum afterwards add of weak vitriolic acid sixteen pound, let it be digested for a day, frequently stirring it with a wooden spatula. After this pour the acid liquor into a glass vessel: But with the residuum mix sixteen pounds of spring water; Strain it through paper, and again pour water on the residuum till it become insipid. Let the

the acid liquors mixed together in a glass vessel to be boiled to the consistence of a thin syrup; which being strained, must be set apart for the formation of crystals. Let the crystals collected after repeated distillations be dried on paper, and afterwards kept in a dry place.

If before crystallization a little of the inspissated acid liquor be diluted with four times its quantity of pure water, and a few drops of vinegar of litharge be put into it, a white sediment will immediately be deposited. If a few drops of the diluted nitrous acid be then added, the mixture will become limpid if the tartareous liquor be pure and entirely free from the vitriolic acid; but if it be not, it will become white. This fault, however, may be corrected, if the acid of tartar be diluted with six pounds of water and a few ounces of the tartareous selenites be added to it. After this it may be digested, strained, and crystallized.

By this process, the acid of tartar may be obtained in a pure solid form. It would, however, be perhaps an improvement of the process, if quicklime were employed in place of chalk. For Dr Black has found that quicklime absorbs the whole of the tartareous acid, and then the supernatant liquor contains only the alkaline part of the tartar; whereas when chalk is employed, it contains a solution of soluble tartar, the chalk taking up only the superabundant acid. By this method then a greater quantity of tartareous acid might be obtained from the sediment. The tartareous acid has not hitherto been much employed in its pure state. But besides being useful for some purposes in medicine, for which the cream of tartar is at present in use, and where that supersaturated neutral may be less proper, there is also reason to suppose, that from the employment of the pure acid, we should arrive at more certainty in the preparation of the antimonium tartarizatum, or tartar emetic, than by employing the cream of tartar, the proportion of acid in which varies very much from different circumstances. The pure acid of tartar might also probably be employed with advantage for bringing other metallic substances to a saline state.

ACIDUM TARTARI DISTILLATUM.

Suec.

Distilled Acid of Tartar.

Let pounded crude tartar be put into a tubulated earthen or iron retort till it fills about two-thirds of it, and let distillation be performed by gradually increasing the heat. Into the recipient, which should be very large, an acid liquor will pass over together with the oil; which being separated from the oil, must again be distilled from a glass retort.

If the residuum contained in the earthen or iron retort be diluted with water, strained through paper, and boiled to dryness, it gives what is called the alkali of tartar. If this do not appear white, it may be made so by burning, solution, straining, and evaporation.

This is another mode of obtaining both the acid and alkali of tartar in a pretty pure state, and, as well as the former, it is not unworthy of being adopted into our pharmacopœias.

AQUA AERIS FIXI.

Ross.

Aerated Water.

Let spring water be saturated with the fixed air, or aerial acid, arising from a solution of chalk in vitriolic acid, or in any similar acid. Water may also be impregnated by the fixed air rising from fermenting liquors.

The aerial acid, of which we have already had occasion to make some observations, (vide page 65), besides the great influence which it has as affecting different saline bodies into whose composition it enters, is also frequently employed in medicine, with a view to its action on the human body. The late ingenious Dr Dobson in his Commentary on Fixed Air, has pointed out many purposes for which it may be usefully employed, and several different forms under which it may be used. But there is no form under which it is at present more frequently had recourse to than that of aerated or mephitic water, as it has often been called. And although not yet received either into the London or Edinburgh pharmacopœias, it is daily employed in practice, and is we think justly intitled to a place among the saline preparations.

The most convenient mode of impregnating water with the aerial acid, and thus having it in our power to exhibit that acid as it were in a diluted state, is by means of a well known and sufficiently simple apparatus, contrived by that ingenious philosopher Dr Nooth. Such a machine ought, we think, to be kept in every shop for the more ready preparation of this fluid. Water properly impregnated with the aerial acid, has an agreeable acidulous taste. It is often employed with great advantage in the way of common drink, by those who are subjected to stomach complaints, and by calculous patients. But, besides this, it furnishes an excellent vehicle for the exhibition of many other medicines.

Besides the simple aerated water, the Pharmacopœia Rossica contains also an Aqua aeris fixi martialis, or ferruginous aerated water. This is prepared by suspending iron wires in that water till the water be fully saturated with the metal. And in consequence of this acid, simple water becomes a menstruum both for different metallic and earthy substances. But water in this state may be considered rather as fitted for those purposes for which chalybeates are in use, than as a preparation of the aerial acid.

SAL ET OLEUM SUCCINI.

Lond.

Salt and Oil of Amber.

Take of

Amber, two pounds.

Distil in a sand heat, gradually augmented: an acid liquor, oil, and salt impregnated with oil, will ascend.

On this article we have already offered some observations under the head of Essential Oils. The directions here given by the London college differ chiefly from those of the Edinburgh college formerly mentioned, in no sand being employed: But when care is taken that the sand be pure, it can give no improper impregnation to the medicine, and may prevent some inconveniences in the distillation, particularly that of the amber rising in substance into the receiver.

SAL SUCCINI PURIFICATUS.

Lond.

Purified Salt of Amber.

Take

Take of
Salt of amber half a pound;
Diſtilled water, one pint.
Boil the ſalt in the diſtilled water, and ſet aſide the ſolution to cryſtallize.

Salt of amber when perfectly pure, is white, of an acid taſte, and not ungrateful. It requires, for its ſolution, of cold water, in ſummer, about twenty times its weight; and of boiling water about twice its weight; it is ſcarcely ſoluble in rectified ſpirit without the aſſiſtance of heat.

It is given as a cooling diuretic in doſes of a few grains, and alſo in hyſterical complaints.

FLORES BENZOES.

Lond.

Flowers of Benzoine.

Take of
Benzoine, in powder, one pound.
Put it into an earthen pot, placed in ſand; and, with a ſlow fire, ſublime the flowers into a paper cone fitted to the pot.
If the flowers be of a yellow colour, mix them with white clay, and ſublime them a ſecond time.

FLORES BENZOINI.

Edinb.

Put any quantity of powdered benzoine into an earthen pot, to which, after fitting it with a large conical paper cap, apply a gentle heat that the flowers may ſublime. If the flowers be impregnated with oil, let them be purified by ſolution in warm water and cryſtallization.

Benzoine, expoſed in a retort to a gentle fire, melts and ſends up into the neck white, ſhining cryſtalline flowers, which are followed by an oily ſubſtance. Theſe flowers, which are at preſent conſidered as a peculiar acid, are by ſome termed *acidum benzoicum*. On raiſing the heat a little (a recipient being applied to the neck of the retort) a thin yellowiſh oil comes over, intermingled with an acid liquor, and afterwards a thick butyraceous ſubſtance: this laſt, liquefied in boiling water, gives out to it a conſiderable quantity of ſaline matter (ſeparable by filtration and proper exhalation), which appears in all reſpects ſimilar to the flowers.

It appears, therefore, that the whole quantity of flowers which benzoine is capable of yielding, cannot be obtained by the above proceſſes, ſince a conſiderable portion ariſes after the time of their being diſcontinued. The greateſt part of the flowers ariſe with a leſs degree of heat than what is neceſſary to elevate the oil; but if the operation be haſtily conducted, or if the fire be not exceedingly gentle, the oil will ariſe along with the flowers, and render them foul. Hence in the way of trade, it is extremely difficult to prepare them of the requiſite whiteneſs and purity; the heat which becomes neceſſary, when large quantities of the benzoine are employed, being ſo great as to force over ſome of the oil along with them.

In order, therefore, to obtain theſe flowers in perfection, only a ſmall quantity of benzoine ſhould be put into the veſſel at a time; and that this may not be any impediment to the requiſite diſpatch, a number of ſhallow, flat-bottomed, earthen diſhes may be employed, each fitted with another veſſel inverted over it, or a paper cone. With theſe you may fill a ſand furnace; having freſh diſhes charged in readineſs to replace thoſe in the furnace, as ſoon as the proceſs ſhall appear finiſhed in them: the reſiduum of the ben-

zoine should be scraped out of each of the vessels before a fresh parcel be put in.

These flowers when made in perfection, have an agreeable taste and fragrant smell. They totally dissolve in spirit of wine; and likewise, by the assistance of heat, in water; but separate again from the latter upon the liquor's growing cold, shooting into saline spicula, which unite together into irregular masses. By the mediation of sugar they remain suspended in cold water, and thus form an elegant balsamic syrup. Some have held them in great esteem as pectoral and sudorific, in the dose of half a scruple or more: but at present they are rarely used, on account of the offensive oil which, as usually prepared, they are tainted with, and from which a fresh sublimation from tobacco-pipe clay, as formerly practised, did not free them so effectually as might be wished. The observations above related, point out the method of depurating them more perfectly, viz. by solution, filtration, and crystallization.

They enter the composition of the paregoric elixir, or tinctura opii camphorata, as it is now called.

SAL TARTARI.

Edinb.

Salt of tartar.

Take of

Tartar, what quantity you please. Roll it up in a piece of moist bibulous paper, or put it into a crucible, and surrounding it with live coals, burn it to a coal; next, having beat this coal, calcine it in an open crucible with a moderate heat, taking care that it do not melt, and continue the calcination till the coal becomes of a white, or at least of an ash colour. Then dissolve it in warm water; strain the liquor through a cloth, and evaporate it in a clean iron vessel; diligently stirring it towards the end of the process with an iron spathula, to prevent it from sticking to the bottom of the vessel. A very white salt will remain, which is to be left a little longer on the fire, till the bottom of the vessel becomes almost red. Lastly, when the salt is grown cold, let it be put up in glass vessels well shut.

Native tartar is a saline substance, compounded of an acid, of a fixt alkali, and of oily, viscous, and colouring matter. The purpose of the above process is, to free it from every other matter but the fixed alkali. From the mistaken notion, that tartar was essentially an acid mixed only with impurities, it has been generally supposed that the effect of this operation was the conversion of an acid into an alkali by means of heat. But since Mr Scheele has discovered that the proper matter of tartar, freed from the oily and colouring parts, is really a salt compounded of an acid, which is predominant, and a fixt alkali, we have no farther need of such an obscure theory. The acid of the tartar by this process is dissipated by means of the heat; and the oily, viscous, and colouring matters, are partly dissipated, and partly brought to the state of insoluble earthy matter, easily separable by the future lixiviation from the alkali, wherewith they were loosely combined. But by the last of these processes, something farther is carried on than the separation of the more palpable foreign matters. By allowing the salt, freed from the water of the lixivium, to remain on the fire till the bottom of the vessel become almost red, any oily matter that may still be present seems to be decomposed by the united action of the

heat and fixt alkali, forming with a part of the latter, by their reciprocal action, a volatile alkaline ſalt, which is forthwith diſcharged in elaſtic vapours. Beſides the complete diſcharge of the above principles, the remaining fixed alkali alſo ſuffers a conſiderable loſs of its fixed air, or aerial acid; with which, when fully ſaturated, it forms the imperfect neutral ſalt, denominated by Dr Black *mild fixed alkali*: on this account it is ſomewhat cauſtic, conſiderably deliqueſcent, and in proportion to its poſſeſſing theſe properties more or leſs, it more or leſs nearly approaches to the ſtate of pure alkali. It is not, however, ſo effectually deprived of fixed air as to be ſufficiently cauſtic for a number of purpoſes. Where cauſticity is not required, the ſalt thus purified is abundantly fit for moſt pharmaceutical purpoſes, but as native tartar generally contains ſmall portions of neutral ſalts beſides the foreign matters already noticed, it is neceſſary, if we wiſh to have a very pure alkali for nice operations, to employ cryſtallization, and other means beſide the proceſs here directed.

The white and red ſorts of tartar are equally fit for the purpoſe of making fixt ſalt; the only difference is, that the white affords a ſomewhat larger quantity than the other; from ſixteen ounces of this ſort, upwards of four ounces of fixt alkaline ſalt may be obtained. The uſe of the paper is to prevent the ſmaller pieces of the tartar from dropping down into the aſh-hole, through the interſtices of the coals, upon firſt injecting it into the furnace.

The calcination of the ſalt (if the tartar was ſufficiently burnt at firſt) does not increaſe its ſtrength ſo much as is ſuppoſed: nor is the greeniſh or blue colour any certain mark either of its ſtrength, or of its having been, as was formerly ſuppoſed, long expoſed to a vehement fire: for if the crucible be perfectly clean, cloſe covered, and has ſtood the fire without cracking, the ſalt will turn out white, though kept melted and reverberated ever ſo long; while, on the other hand, a ſlight crack happening in the crucible, or a ſpark of coal falling in, will in a few minutes give the ſalt the colour admired. The colour in reality, is a mark rather of its containing ſome inflammable matter, than of its ſtrength.

The vegetable alkali prepared from tartar has now no place in the London Pharmacopœia, or at leaſt it is included under the following article.

KALI PRÆPARATUM.

Lond.

Prepared Kali.

Take of

Pot-aſh, two pounds

Boiling diſtilled water, three pints.

Diſſolve and filtre through paper; evaporate the liquor till a pellicle appears on the ſurface; then ſet it aſide for a night, that the neutral ſalts may cryſtallize; after which pour out the liquor, and boil away the whole of the water, conſtantly ſtirring, leſt any ſalt ſhould adhere to the pot.

In like manner is purified impure kali from the aſhes of any kind of vegetable.

The ſame ſalt may be prepared from tartar burnt till it becomes of an aſh-colour.

SAL ALCALINUS fixus VEGETABILIS PURIFICATUS.

Edinb.

Fixed vegetable alkaline ſalt purified.

Let the fixed alkaline ſalt, called in Eng-

Engliſh *pearl-aſhes*, be put into a crucible, and brought to a ſomewhat red heat, that the oily impurities, if there be any, may be conſumed; then having beat and agitated it with an equal weight of water, let them be well mixed. After the feces have ſubſided, pour the ley into a very clean iron pot, and boil to dryneſs, diligently ſtirring the ſalt towards the end of the proceſs, to prevent its ſticking to the veſſel.

This ſalt, if it hath been rightly purified, tho' it be very dry, if rubbed with an equal weight of water, may be diſſolved into a liquor void of colour or ſmell.

The potaſh uſed in commerce is an alkali mixed with a conſiderable quantity of remaining charcoal, ſulphur, vitriolated tartar, and oily matter. In the large manufactures, the alkaline part is indeed conſiderably freed from impurities by mixing the weed-aſhes with water, evaporating the clear ley, and burning the reſiduum in an oven; but beſides that this proceſs is inſufficient for the complete ſeparation of the impurities, it alſo ſuperadds a quantity of ſtony matter, giving to the alkali the *pearl* appearance (whence its name), and rendering it altogether unfit for pharmaceutical purpoſes. By the proceſſes here directed, the alkali is effectually freed from all theſe heterogeneous matters, excepting perhaps a ſmall proportion of vitriolated tartar, or other neutral ſalts, which may very generally be neglected. As in the proceſs no after calcination is directed, it is probable that the fixed alkali thus prepared will not prove ſo cauſtic, that is to ſay, is not ſo conſiderably deprived of fixed air, as in the proceſs directed for preparing the ſal tartari. It is, however, ſufficiently pure for moſt purpoſes: and we conſider the above proceſs as the moſt convenient and cheap method of obtaining the vegetable fixed alkali in its mild ſtate.

The purified vegetable alkali, has been known in our pharmacopœias under the different names of *ſal abſinthii*, *ſal tartari*, &c. But all theſe being now known to be really the ſame, the terms, as leading to error, have been with juſtice expunged; and it has been a deſideratum to diſcover ſome ſhort name equally applicable to the whole. The term employed by the Edinburgh college is too long, being rather a deſcription than a name. But to that employed by the London college, *Kali*, objections have alſo been made. And it muſt be allowed, that beſides the inconvenience which ariſes from its being an indeclinable word, the foſſil alkali is equally entitled to the ſame appellation. Beſides this, as a conſiderable portion of the foſſil alkali is prepared from burning a vegetable growing on the ſea coaſts, which has the name of *kali*, the Kali ſpinoſum of Linné, ſome apparent contradiction and ambiguity may thence ariſe. And the London college would perhaps have done better, if they had adopted the term *Potaſſa*; a name which has been appropriated to this ſalt by ſome of the moſt eminent modern chemiſts.

The purified potaſſa is frequently employed in medicine, in conjunction with other articles, particularly for the formation of ſaline neutral draughts and mixtures: But it is uſed alſo by itſelf in doſes from three or four grains to fifteen or twenty; and it frequently operates as a powerful diuretic, particularly when aided by proper dilution.

AQUA

AQUA KALI.
Lond.
Water of Kali.

Take of
Kali, one pound.
Set it by in a moiſt place till it be diſſolved, and then ſtrain it.

THIS article had a place in former editions of our pharmacopœias under the titles of *lixivium tartari, liquamen ſalis tartari, oleum tartari per deliquium*, &c. It is, however, to be conſidered as a mere watery ſolution of the mild vegetable alkali, formed by its attracting moiſture from the air; and therefore it is with propriety ſtyled the *aqua kali*.

The ſolutions of fixt alkaline ſalts, made by expoſing them to a moiſt air, are generally conſidered as being purer than thoſe made by applying water directly: for though the ſalt be repeatedly diſſolved in water, filtered, and exſiccated; yet on being liquefied by the humidity of the air, it will ſtill depoſite a portion of earthy matter: but it muſt be obſerved, that the exſiccated ſalt leaves always an earthy matter on being diſſolved in water, as well as on being deliquated in the air. Whether it leaves more in the one way than in the other, is not determined with preciſion. The deliquated lixivium is ſaid to contain nearly one part of alkaline ſalt to three of an aqueous fluid. It is indifferent, in regard to the lixivium itſelf, whether the white aſhes of tartar, or the ſalt extracted from them, be uſed; but as the aſhes leave a much greater quantity of earth, the ſeparation of the ley proves more troubleſome.

The aqua kali of the preſent edition of the London pharmacopœia then, may be conſidered as an improvement of the lixivium tartari of their former edition. But the Edinburgh college conſidering this ſolution as being in no reſpect different from that made by pure water, have entirely rejected this preparation from their pharmacopœia, and probably with juſtice.

AQUA KALI PURI.
Lond.
Water of pure kali.

Take of
Kali, four pounds;
Quick lime, ſix pounds;
Diſtilled water, four gallons.
Put four pints of water to the lime, and let them ſtand together for an hour; after which, add the kali and the reſt of the water; then boil for a quarter of an hour: ſuffer the liquor to cool and ſtrain. A pint of this liquor ought to weigh ſixteen ounces. If the liquor effervesces with any acid, add more lime.

A preparation ſimilar to this had a place in the former edition of the London Pharmacopœia, under the title of *lixivium ſaponarium*. Quicklime, by depriving the mild alkali of its aerial acid, renders it cauſtic: hence this ley is much more acrimonious, and acts more powerfully as a menſtruum of oils, fats, &c. than a ſolution of the potaſſa alone. The lime ſhould be uſed freſh from the kiln; by long keeping, even in cloſe veſſels, it loſes its ſtrength: ſuch ſhould be made choice of as is thoroughly burnt or calcined, which may be known by its comparative lightneſs.

All the inſtruments employed in this proceſs, ſhould be either of wood, earthen ware, or glaſs: the common metallic ones would be corroded by the ley, ſo as either to diſcolour or communicate diſagreeable qualities to it. If it ſhould be needful to filtre or ſtrain the liquor, care muſt be taken that the filtre or ſtrainer be of vegetable matter; woollen, ſilk, and that ſort of filter-

ing

ing paper which is made of animal substances, are quickly corroded and dissolved by it.

The liquor is most conveniently weighed in a narrow-necked glass bottle, of such a size, that the measure of a wine pint may arise some height into its neck; the place to which it reaches being marked with a diamond. A pint of the common leys of our soapmakers weighs more than sixteen ounces: it has been found that their soap-ley will be reduced to the standard here proposed, by mixing it with something less than an equal measure of water.

Although this liquor is indeed pure alkali dissolved in water, yet we are inclined to give the preference to the name employed by the Edinburgh college, as well as to the modes of preparing it, directed in the following formula.

LIXIVIUM CAUSTICUM.

Edinb.

Caustic ley.

Take of

Fresh-burnt quicklime, eight ounces;

Purified fixt vegetable alkaline salt, six ounces.

Throw the quicklime, with twenty eight ounces of warm water, into an iron or earthen vessel. The ebullition and extinction of the lime being perfectly finished, instantly add the alkaline salt; and having thoroughly mixed them, shut the vessel till it cools. Stir the cooled matter, and pour out the whole into a glass funnel, whose throat must be stopt up with a piece of clean rag. Let the upper mouth of the funnel be covered, while the tube of it is inserted into a glass vessel, so that the ley may gradually drop through the rag into that vessel. When it first gives over dropping, pour into the funnel some ounces of water; but cautiously, and in such a manner, that the water shall swim above the matter. The ley will again begin to drop, and the affusion of water is to be repeated in the same manner, until three pounds have dropped, which takes up the space of two or three days; then agitating the superior and inferior parts of the ley together, mix them, and put up the liquor in a well-shut vessel.

If the ley be rightly prepared, it will be void of colour or smell; nor will it raise an effervescence with acids, except, perhaps, a very slight one. Colour and odour denote the salt not sufficiently calcined; and effervescence, that the quicklime has not been good.

The reasons and propriety of the different steps in the above process will be best understood by studying the theory on which it is founded. The principle of mildness in all alkaline salts, whether fixt or volatile, vegetable or fossil, is very evidently fixed air, or the aerial acid: But as quicklime has a greater attraction for fixed air than any of these salts, so if this substance be presented to any of them, they are thereby deprived of their fixed air, and forthwith become caustic. This is what precisely happens in the above processes (see ANALYSIS of VEGETABLES by FIRE, page 40.) The propriety of closely shutting the vessels through almost every step of the operation, is sufficiently obvious; viz. to prevent the absorption of fixed air from the atmosphere, which might defeat our intentions. When only a piece of cloth is put into the throat of the funnel, the operation is

is much more tedious, becauſe the pores of the cloth are ſoon blocked up with the wet powdery matter. To prevent this, it may be convenient to place above the cloth a piece of fine Fly's wire-work; but as metallic matters are apt to be corroded, the method uſed by Dr Black is the moſt eligible. The Doctor firſt drops a rugged ſtone into the tube of the funnel, in a certain place of which it forms itſelf a firm bed, while the inequalities on its ſurface afford interſtices of ſufficient ſize for the paſſage of the filtring liquor. On the upper ſurface of this ſtone he puts a thin layer of lint or clean tow; immediately above this, but not in contact with it, he drops a ſtone ſimilar to the former, and of a ſize proportioned to the ſwell in the upper part of the tube of the funnel. The interſtices between this ſecond ſtone and the funnel are filled up with ſtones of a leſs dimenſion, and the gradation uniformly continued till pretty ſmall ſand is employed. Finally, this is covered with a layer of coarſer ſand and ſmall ſtones to ſuſtain the weight of the matter, and to prevent its being inviſcated in the minute interſtices of the fine ſand. The throat of the funnel being thus built up, the ſtony fabric is to be freed of clay and other adhering impurities, by making clean water paſs through it till the water comes clear and tranſparent from the extremity of the funnel. It is obvious, that in this contrivance the author has, as uſual, copied nature in the means ſhe employs to depurate watery matters in the bowels of the earth; and it might be uſefully applied for the filtration of various other fluids.

It is a very neceſſary caution to pour the water gently into the funnel; for if it be thrown in a forcible ſtream, a quantity of the powdery matter will be waſhed down, and render all our previous labour uſeleſs. That part of the ley holding the greateſt quantity of ſalt in ſolution, will no doubt be heavieſt, and will conſequently ſink loweſt in the veſſel: the agitation of the ley is therefore neceſſary, in order to procure a ſolution of uniform ſtrength through all its parts. If the ſalt has been previouſly freed of oily and other inflammable matters, this ley will be colourleſs and void of ſmell. If the quicklime has been ſo effectually deprived of its own fixed air, as to be able to abſorb the whole of that in the alkali, the ley will make no efferveſcence with acids, being now deprived of fixed air, to the diſcharge of which by acids this appearance is to be aſcribed in the mild or aerated alkalies.

The cauſtic ley is therefore to be conſidered as a ſolution of pure alkali in water. See article FIXED AIR, page 65.

It may be proper to obſerve, for the ſake of underſtanding the whole of the theory of the above proceſs, that while the alkali has become cauſtic, from being deprived of fixed air by the quicklime, the lime has in its turn become mild and inſoluble in water from having received the fixed air of the alkali.

The cauſtic ley, under various pompous names, has been much uſed as a lithontriptic; but its fame is now beginning to decline. In acidities in the ſtomach, attended with much flatulence and laxity, the cauſtic ley is better adapted than mild alkalies; as in its union with the acid matter it does not ſeparate air. When covered with mucilaginous matters, it may be ſafely taken into the ſtomach: and by ſtimulating, it coincides with the other intentions of cure; by ſome dyſpetic patients it has been employed with advantage.

KALI PURUM.

Lond.

Pure Kali.

Take of

Water of pure kali, one gallon.

Evaporate it to dryness; after which let the salt melt on the fire, and pour it out.

CAUSTICUM COMMUNE ACERRIMUM.

Edin.

The strongest common Caustic.

Take of

Caustic ley, what quantity you please.

Evaporate it in a very clean iron vessel on a gentle fire, till, on the ebullition ceasing, the saline matter gently flows like oil, which happens before the vessel becomes red. Pour out the caustic, thus liquefied on a smooth iron plate; let it be divided into small pieces before it hardens, which are to be kept in well-shut phials.

THESE preparations may be considered as differing in no essential particular. But the directions given by the Edinburgh college are the most precise and distinct.

The effect of the above processes is simply to discharge the water of the solution, whereby the causticity of the alkali is more concentrated in any given quantity. These preparations are strong and sudden caustics. The caustic prepared in this way has an inconvenience of being apt to liquefy too much on the part to which it is applied, so that it is not easily confined within the limits in which it is intended to operate; and indeed the suddenness of its action depends on this disposition to liquefy.

CALX CUM KALI PURO.

Lond.

Lime with pure Kali.

Take of

Quick-lime, five pounds and four ounces;

Water of pure kali, sixteen pounds by weight.

Boil away the water of pure kali to a fourth part; then sprinkle in the lime, reduced to powder by the affusion of water. Keep it in a vessel close stopped.

CAUSTICUM COMMUNE MITIUS.

Edinb.

The milder common Caustic.

Take of

Caustic ley, what quantity you please.

Evaporate in an iron vessel till one-third remains; then mix with it as much new-slaked quicklime as will bring it to the consistence of pretty solid pap, which is to be kept in a vessel closely stopt.

THESE preparations do not essentially differ from each other, while the chief difference between the present formula and that which stood in the last edition of the London pharmacopœia is in the name. It was then styled the *causticum commune acerrimum.*

Here the addition of lime in substance renders the preparation less apt to liquefy than the foregoing, and consequently it is more easily confinable within the intended limits, but proportionally slower in its operation. The design of keeping or of slaking the lime is, that its acrimony may be somewhat abated.

Exposed long to the air, these preparations gradually resume their power of effervescence, and lose proportionally

portionally the additional activity which the quicklime had produced in them.

NATRON PRÆPARATUM.

Lond.

Prepared Natron.

Take of

Barilla, powdered, two pounds;
Diſtilled water, one gallon.

Boil the barilla in four pints of water for half an hour, and ſtrain. Boil the part which remains after ſtraining with the reſt of the water, and ſtrain. Evaporate the mixed liquors to two pints, and ſet them by for eight days; ſtrain this liquor again; and, after due boiling, ſet it aſide to cryſtallize. Diſſolve the cryſtals in diſtilled water; ſtrain the ſolution, boil, and ſet it aſide to cryſtallize.

The name of *natron*, here uſed by the London college for the fixed foſſil alkali, has, as well as their name for the vegetable alkali, been objected to. And though they are here ſupported by the authority of the antients, yet perhaps they would have done better in following the beſt modern chemiſts by employing the term *ſal ſoda*. This article differs in name only from the following.

SAL ALKALINUS FIXUS FOSSILIS PURIFICATUS.

Edinb.

Fixed Foſſil Alkaline Salt purified.

Take of

Aſhes of Spaniſh kali, commonly called ſoda or barilla, as much as you pleaſe.

Bruiſe them; then boil in water till all the ſalt be diſſolved. Strain this thro' paper, and evaporate in an iron veſſel, ſo that after the liquor has cooled the ſalt may concrete into cryſtals.

By the above proceſſes, the foſſil alkali is obtained ſufficiently pure; being much more diſpoſed to cryſtallize than the vegetable alkali; the admixture of this laſt, objected to by Dr Lewis, is hereby in a great meaſure prevented.

It is with great propriety, that in this, as well as many other proceſſes, the London college direct the uſe of diſtilled water, as being free from every impregnation.

The natron, or foſſil alkali, is found lying on the ground in the iſland of Teneriff, and ſome other countries. The native productions of this ſalt ſeem to have been better known to the antients than to late naturaliſts; and it is, with good reaſon, ſuppoſed to be the nitre of the Bible. How far the native natron may ſuperſede artificial means to procure it from mixed bodies, we have not been able to learn with certainty.

The foſſil alkali is not only a conſtituent of different neutrals, but is alſo ſometimes employed as a medicine by itſelf. And in its purified ſtate it has been by ſome reckoned uſeful in affections of the ſcrophulous kind.

AMMONIA PRÆPARATA.

Lond.

Prepared Ammonia.

Take of

Sal ammoniac, powdered, one pound;
Prepared chalk, two pounds.

Mix and ſublime.

AQUA AMMONIA.

Lond.

Water of Ammonia.

Take of

Sal ammoniac, one pound;
Pot-aſh, one pound and a half;
Water, four pints.

Draw off two pints, by diſtillation, with a ſlow fire.

ALCALI VOLATILE ex SALE AMMONIACO, vulgo SAL AMMONIACUS VOLATILIS.

Edinb.

Volatile alkali from sal Ammoniac, commonly called *Volatile sal Ammoniac.*

Take of

Sal ammoniac, one pound;

Chalk, very pure and dry, two pounds;

Mix them well, and sublime from a retort into a refrigerated receiver.

SPIRITUS SALIS AMMONIACI.

Edinb.

Spirit of Sal Ammoniac.

Take

Sal ammoniac,

Purified vegetable fixed alkali, of each sixteen ounces;

Water, two pounds.

Having mixed the salts, and put them into a glass retort, pour in the water; then distil to dryness with a sand-bath, gradually raising the heat.

These articles, which in the last edition of the London Pharmacopœia were styled *spiritus et sal volatilis salis ammoniaci,* were then directed to be prepared in the same manner.

Sal ammoniac is a neutral salt, composed of volatile alkali and marine acid. In these processes the acid is absorbed by the fixt alkali or chalk; and the volatile alkali is of course set at liberty.

The volatile alkali is, however, in its mild state, being combined with the fixed air, or discharged from the fixed alkali or chalk on their uniting with the muriatic acid.

The fixt alkali begins to act on the sal ammoniac, and extricates a pungent urinous odor as soon as they are mixed. Hence it is most convenient not to mix them till put into the distilling vessel: the two salts may be dissolved separately in water, the solutions poured into a retort, and a receiver immediately fitted on. An equal weight of the fixt salt is fully, perhaps more than sufficient, to extricate all the volatile.

Chalk does not begin to act on the sal ammoniac till a considerable heat be applied. Hence they may be without inconvenience, and indeed ought to be thoroughly mixed together before they are put into the retort. The surface of the mixture may be covered with a little more powdered chalk, to prevent such particles of the sal ammoniac as may happen to lie uppermost from subliming unchanged. Tho' the fire must here be much greater than when fixt alkaline salt is used, it must not be strong, nor suddenly raised; for if it be, a part of the chalk (though of itself not capable of being elevated by any degree of heat) will be carried up along with the volatile salt. M. du Hamel experienced the justness of this observation: He relates, in the Memoirs of the French Academy of Sciences for the year 1735, that he frequently found his volatile salt, when a very strong fire was used in the sublimation, amount to more, sometimes by a half, than the weight of the crude sal ammoniac employed: and, although not three fourths of this concrete are pure volatile salt, yet the fixt earthy matter, when once volatilized by the alkali, arose along with it again on the gentlest resublimation, dissolved with it in water, and exhaled with it in the air.

When all the salt has sublimed, and the receiver grown cool, it may be

be taken off, and luted to another retort charged with fresh materials. This process may be repeated till the recipient appears lined with volatile salt to a considerable thickness; the vessel must then be broken, in order to get out the salt.

The volatile salt and spirit of sal ammoniac are the purest of all the medicines of this kind. They are somewhat more acrimonious than those produced directly from animal substances, which always contain a portion of the oil of the subject, and receive from thence some degree of a saponaceous quality. These last may be reduced to the same degree of purity, by combining them with acids into ammoniacal salts; and afterwards recovering the volatile alkali from these compounds by the processes above directed.

The matter which remains in the retort after the distillation of the spirit, and sublimation of the volatile sal ammoniac, is found to consist of marine acid united with the fixt alkali or chalk employed. When fixt alkaline salt has been used as the intermedium, the residuum, or *caput mortuum* as it is called, yields, on solution and crystallisation, a salt exactly similar to the *spiritus salis marini coagulatus* afterwards described: and hence we may judge of the extraordinary virtues formerly attributed to this salt, under the names of *sal antihystericum, antihypochondriacum, febrifugum, digestivum Sylvii, &c.*

The caput mortuum of the volatile salt, where chalk is employed as an intermedium, exposed to a moist air, runs into a pungent liquor, which proves nearly the same with a solution of chalk made directly in the marine acid; it is called by some *oleum cretæ*, oil of chalk. If calcined shells, or other animal limes, be mingled with sal ammoniac, a mass will be obtained, which likewise deliquesces in the air, and forms a liquor of the same kind.

AQUA AMMONIÆ PURÆ.

Lond.

Water of pure Ammonia.

Take of

Sal ammoniac, one pound;
Quicklime, two pounds;
Water, one gallon.

Add to the lime two pints of the water. Let them stand together an hour; then add the sal ammoniac and the other six pints of water boiling, and immediately cover the vessel. Pour out the liquor when cold, and distil off with a slow fire one pint.

ALCALI VOLATILE CAUSTICUM, vulgo SPIRITUS SALIS AMMONIACI CUM CALCE VIVA.

Edinb.

Caustic volatile Alkali, commonly called *spirit of sal ammoniac with quicklime.*

Take of

Quicklime, fresh burnt, two pounds;
Water, one pound.

Having put the water into an iron or stone-ware vessel, add the quicklime, previously beat; cover the vessel for twenty-four hours; when the lime has fallen into a fine powder, put it into the retort. Then add sixteen ounces of sal ammoniac, diluted with four times its weight of water; and, shutting the mouth of the retort, mix them together by agitation. Lastly, distil into a refrigerated receiver, with a very gentle heat, so that the operator can easily bear the heat of the retort applied to his hands; twenty ounces of liquor are to be drawn off. In this distillation the vessels are to be so luted as thoroughly

thoroughly to exclude the vapours which are very penetrating. After the distillation, however, they are to be opened, and the alkali poured out before the retort hath altogether cooled.

The theory of this process is precisely the same with that directed for the preparation of *lixivium causticum*. The effect of the quicklime on the sal ammoniac, is very different from that of the chalk and fixt alkali in the foregoing process. Immediately on mixture, a very penetrating vapour exhales; and in distillation the whole of the volatile salt arises in a liquid form; no part of it appearing in a concrete state, how gently soever the liquor be redistilled. This spirit is far more pungent than the other, both in smell and taste; and, like fixt alkalies rendered caustic by the same intermedium, it raises no effervescence on mixture with acids. The whole of the phenomena are to be ascribed to the absorption of fixed air from the alkali by means of the quicklime; and from being thus deprived of the aerial acid, the volatile alkali is brought to a caustic state.

This spirit is held to be too acrimonious for internal use, and has therefore been chiefly employed for smelling to in faintings, &c. tho' when properly diluted, it may be given inwardly with safety. It is a powerful menstruum for some vegetable substances, as Peruvian bark, from which the other spirits extract little. It is also most convenient for the purpose of rendering oils miscible with water; as in the preparation of what is called in extemporaneous practice *the oily mixture*.

Some have mixed a quantity of this with the officinal spirits both of sal ammoniac and of hartshorn: which thus become more pungent, so as to bear an addition of a considerable quantity of water, without any danger of the discovery from the taste or smell. This abuse would be prevented, if what has been formerly laid down as a mark of the strength of these spirits (some of the volatile salt remaining undissolved in them) were attended to. It may be detected by adding to a little of the suspected spirit about one-fourth its quantity or more of rectified spirit of wine: which, if the volatile spirit be genuine, will precipitate a part of its volatile salt, but occasions no visible separation or change in the caustic spirit, or in those which are sophisticated with it.

Others have substituted for the spirit of sal ammoniac a solution of crude sal ammoniac and fixt alkaline salt mixed together. This mixture deposites a saline matter on the addition of spirit of wine, like the genuine spirit; from which, however, it may be distinguished, by the salt which is thus separated not being a volatile alkaline, but a fixt neutral salt. The abuse may be more readily detected by a drop or two of solution of silver in aquafortis, which will produce no change in the appearance of the true spirit, but will render the counterfeit turbid and milky.

LIQUOR VOLATILIS, SAL, ET OLEUM CORNU CERVI.

Lond.

The volatile Liquor, Salt, and Oil, of Hartshorn.

Take of

Hartshorn, ten pounds.

Distil with a fire gradually increased. A volatile liquor, salt, and oil, will ascend.

The oil and salt being separated, distil the liquor three times.

To the ſalt add an equal weight of prepared chalk, and ſublime thrice, or till it become white.

The ſame volatile liquors, ſalt, and oil, may be obtained from any parts (except the fat) of all kinds of animals.

THE volatile alkali obtained from hartſhorn, whether in a ſolid or fluid ſtate, is preciſely the ſame with that obtained from ſal ammoniac. And as that proceſs is the eaſieſt, the Edinburgh college have entirely rejected the preſent. While, however, the names of ſpirit and ſalt of hartſhorn are ſtill in daily uſe, ammonia, or the volatile alkali, is ſtill prepared from bones and other animal ſubſtances by ſeveral very extenſive traders.

The wholeſale dealers have very large pots for the diſtillation of hartſhorn, with earthen heads almoſt like thoſe of the common ſtill; for receivers, they uſe a couple of oil jars, the mouths of which are luted together; the pipe that comes from the head enters the lowermoſt jar through a hole made on purpoſe in its bottom. When a large quantity of the ſubject is to be diſtilled, it is cuſtomary to continue the operation for ſeveral days ſucceſſively; only unluting the head occaſionally to put in freſh materials.

When only a ſmall quantity of ſpirit or ſalt is wanted, a common iron pot, ſuch as is uſually fixed in ſand furnaces, may be employed; an iron head being fitted to it The receiver ought to be large, and a glaſs, or rather tin adopter, inſerted between it and the pipe of the head.

The diſtilling veſſel being charged with pieces of the horn, a moderate fire is applied, which is ſlowly increaſed, and raiſed at length almoſt to the utmoſt degree. At firſt a watery liquor ariſes; the quantity of which will be ſmaller or greater according as the horns were more or leſs dry; this is ſucceeded by the ſalt and oil: the ſalt at firſt diſſolves as it comes over in the phlegm, and thus forms what is called *ſpirit*. When the phlegm is ſaturated, the remainder of the ſalt concretes in a ſolid form to the ſides of the recipient. If it be required to have the whole of the ſalt ſolid and undiſſolved, the phlegm ſhould be removed as ſoon as the ſalt begins to ariſe, which may be known by the appearance of white fumes: and that this may be done the more commodiouſly, the receiver ſhould be left unluted, till this firſt part of the proceſs be finiſhed. The white vapours which now ariſe, ſometimes come with ſuch vehemence, as to throw off or burſt the receiver; to prevent this accident, it is convenient to have a ſmall hole in the luting; which may be occaſionally ſtopt with a wooden peg, or opened as the operator ſhall find proper. After the ſalt has all ariſen, a thick dark-coloured oil comes over: the proceſs is now to be diſcontinued; and the veſſels, when grown cold, unluted.

All the liquid matters being poured out of the receiver, the ſalt which remains adhering to its ſides is to be waſhed out with a little water, and added to the reſt. It is convenient to let the whole ſtand for a few hours, that the oil may the better diſengage itſelf from the liquor, ſo as to be firſt ſeparated by a funnel, and afterwards more perfectly by filtration through wet paper. The ſalt and ſpirits are then to be farther purified as above directed.

The ſpirit of hartſhorn met with in the ſhops is extremely precarious in point of ſtrength; the quantity of ſalt contained in it (on which its efficacy

efficacy depends) varying according as the distillation in rectifying it is continued for a longer or shorter time. If after the volatile salt has arisen, so much of the phlegm or watery part be driven over as is just sufficient to dissolve it, the spirit will be fully saturated, and as strong as it can be made. If the process be not at this instant stopped, the phlegm, continuing to arise, must render the spirit continually weaker and weaker. The distillation therefore ought to be discontinued at this period; or rather while some of the salt still remains undissolved: the spirit will thus prove always equal, and the buyer be furnished with a certain criterion of its strength. Very few have taken any notice of the above-mentioned inconvenience of these kinds of spirits; and the remedy is first hinted at in the Pharmacopœia Reformata. The purity of the spirit is easily determined from its clearness and grateful odour.

Volatile alkaline salts, and their solutions called *spirits*, agree in many respects, with fixt alkalies, and their solutions or leys: as in changing the colour of blue flowers to a green; effervescing, when in their mild state, with and neutralizing acids; liquefying the animal juices; and corroding the fleshy parts, so as when applied to the skin, and prevented from exhaling by a proper covering, to act as caustics; dissolving oils and sulphur, though less readily than the fixed alkalies, on account, probably, of their not being able to bear any considerable heat, by which their activity might be promoted. Their principal difference from the other alkalies seems to consist in their volatility: they exhale or emit pungent vapours in the coldest state of the atmosphere; and by their stimulating smell they prove serviceable in languors and faintings. Taken internally, they discover a greater colliquating as well as stimulating power; the blood drawn from a vein, after their use has been continued for some time, is said to be remarkably more fluid than before; they are likewise more disposed to operate by perspiration, and to act on the nervous system. They are particularly useful in lethargic cases; in hysterical and hypochondriacal disorders, and in the languors, headachs, inflations of the stomach, flatulent colics, and other symptoms which attend them; they are generally found more serviceable to aged persons, and in phlegmatic habits, than in the opposite circumstances. In some fevers, particularly those of the low kind, accompanied with a cough, hoarseness, and a redundance of phlegm, they are of great utility; raising the vis vitæ, and exciting a salutary diaphoresis: but in putrid fevers, scurvies, and wherever the mass of blood is thin and acrimonious, their use is ambiguous. As they are more powerful than the fixt, in liquefying tenacious humours; so they prove more hurtful, where the fluids are already in a colliquated state. In vernal intermittents, particularly those of the slow kind, they are often the most efficacious remedy. Dr Bisset observes, in his essay on the Medical Constitution of Great Britain, that though many cases occur which will yield to no other medicine than the bark, yet he has met with many which were only suppressed from time to time by the bark, but were completely cured by alkaline spirits: He tells us, that these spirits will often carry off vernal intermittents, without any previous evacuation: but that they are generally more effectual, if a purge be premised; and in plethoric or inflamma-

flammatory cafes, or where the fever perſonates a remittent, veneſection is neceſſary.

Theſe ſalts are moſt commodiouſly taken in a liquid form, largely diluted; or in that of a bolus, which ſhould be made up only as it is wanted. The doſe is from a grain or two to ten or twelve. Ten drops of a well made ſpirit, or ſaturated ſolution, are reckoned to contain about a grain of the ſalt. In intermittents, fifteen or twenty drops of the ſpirit are given in a tea-cupful of cold ſpring water, and repeated five or ſix times in each intermiſſion.

The volatile ſalts and ſpirits prepared from different animal ſubſtances, have been ſuppoſed capable of producing different effects on the human body, and to receive ſpecific virtues from the ſubject. The ſalt of vipers has been eſteemed particularly ſerviceable in diſorders occaſioned by the bite of that animal; and a ſalt drawn from the human ſkull, in diſeaſes of the head. But modern practice acknowledges no ſuch different effects from theſe preparations; and chemical experiments have ſhewn their identity. There is, indeed, when not ſufficiently purified, a very perceptible difference in the ſmell, taſte, degree of pungency, and volatility of theſe ſalts; and in this ſtate their medicinal virtues vary conſiderably enough to deſerve notice: but this difference they have in common, according as they are more or leſs loaded with oil, not as they are produced from this or that animal ſubſtance. As firſt diſtilled, they may be looked on as a kind of volatile ſoap, in which the oil is the prevailing principle; in this ſtate they have much leſs of the proper alkaline acrimony and pungency than when they have undergone repeated diſtillations, and ſuch other operations as diſengage the oil from the ſalt; for by theſe means they loſe their ſaponaceous quality, and acquiring greater degrees of acrimony, become medicines of a different claſs. Theſe preparations therefore do not differ near ſo much from each other, as they do from themſelves in different ſtates of purity. To which may be added, that when we conſider them as loaded with oil, the virtues of a diſtilled animal oil itſelf are likewiſe to be brought into the account.

Theſe oils, as firſt diſtilled, are highly fetid and offenſive, of an extremely heating quality, and of ſuch activity, that, according to Hoffman's account, half a drop diſſolved in a dram of ſpirit of wine, is ſufficient to raiſe a copious ſweat. By repeated rectifications, they loſe their offenſiveneſs, and at the ſame time become mild in their medicinal operation. The rectified oils may be given to the quantity of twenty or thirty drops, and are ſaid to be anodyne and antiſpaſmodic, to procure a calm ſleep and gentle ſweat, without heating or agitating the body, as has been obſerved in treating of the oleum animale. It is obvious, therefore, that the ſalts and ſpirits muſt differ, not only according to the quantity of oil they contain, but according to the quality of the oil itſelf in its different ſtates.

The volatile ſalt and ſpirits, as firſt diſtilled, are of a brown colour, and a very offenſive ſmell: by repeated rectification, as directed in the proceſſes above ſet down, they loſe great part of the oil on which theſe qualities depend, the ſalt becomes white, the ſpirit limpid as water, and of a grateful odour; and this is the mark of ſufficient rectification.

It has been objected to the repeated rectification of these preparations, that, by separating the oil, it renders them similar to the pure salt and spirit of sal ammoniac, which are procurable at an easier rate. But the intention is not to purify them wholly from the oil, but to separate the grosser part, and to subtilize the rest, so as to bring it towards the same state as when the oil is rectified by itself. The rectification of spirit of hartshorn, has been repeated twenty times successively, and found still to participate of oil, but of an oil very different from what it was in the first distillation.

The rectified oils, in long-keeping, become again fetid. The salts and spirits also, however carefully rectified, suffer in length of time the same change; resuming their original brown colour and ill smell; a proof that the rectification is far from having divested them of oil. Any intentions, however, which they are thus capable of answering, may be as effectually accomplished by a mixture of the volatile alkali with the oleum animale, in its rectified state, to any extent that may be thought necessary.

KALI VITRIOLATUM

Lond.

Vitriolated Kali.

Take of

The salt which remains after the distillation of the nitrous acid, two pounds.

Distilled water, two gallons.

Burn out the superfluous acid, with a strong fire, in an open vessel: then boil it a little while in the water; strain, and set the liquor aside to crystallize.

The salt thus formed, is the same with the vitriolated tartar of the last edition of the London Pharmacopœia; but it is now prepared in a cheaper and easier manner, at least for those who distil the nitrous acid. In both ways a neutral is formed, consisting of the fixed vegetable alkali, united to the vitriolic acid. But a similar compound may also be obtained by the following process of the Edinburgh Pharmacopœia.

ALKALI FIXUM VEGETABILE VITRIOLATUM, vulgo TARTARUM VITRIOLATUM.

Edinb.

Vitriolated fixed vegetable Alkali, commonly called *Vitriolated Tartar.*

Take of

Vitriolic acid, diluted with six times its weight of water, as much as you please.

Put it into a capacious glass vessel, and gradually drop into it, of purified fixed vegetable alkali, diluted with six times its weight of water, as much as is sufficient thoroughly to neutralize the acid. The effervescence being finished, strain the liquor through paper; and after proper evaporation, set it aside to crystallize.

The operator ought to take care that the vapour separated during the effervescence shall not be applied to his nostrils; as fixed air, when applied to the olfactory nerves, is highly deleterious to life.

This is an elegant, and one of the least troublesome ways of preparing this salt. The Edinburgh College, in their former editions, ordered the acid liquor to be dropped into the alkaline: by the converse procedure now received, it is obviously more easy to secure against a redundance of acidity; and for the greater certainty in this point,

point, it may be expedient, as in the foregoing proceſs, to drop in a little more of the alkaline ley than the ceſſation of the effervescence ſeems to require,

In a former edition of the ſame Pharmacopœia, the acid was directed to be diluted only with its equal weight of water, and the alkali with that quantity of water which it is capable of imbibing from the atmoſphere. By that imperfection there was not water enough to keep the vitriolated tartar diſſolved; on which account, as faſt as the alkali was neutralized by the acid, a great part fell to the bottom in a powdery form. In order to obtain perfect and well formed cryſtals, the liquor ſhould not be ſet in the cold, but continued in moderate heat, ſuch as the hand can ſcarcely bear, that the water may ſlowly evaporate.

It is remarkable, that although the vitriolic acid and fixed alkaline ſalt do each readily unite with water, and ſtrongly attract moiſture, even from the air, yet the neutral reſulting from the combination of theſe two, vitriolated tartar, is one of the ſalts moſt difficult of ſolution, very little of it being taken up by cold water.

Vitriolated tartar, in ſmall doſes, as a ſcruple or half a dram, is an uſeful aperient; in large ones, as four or five drams, a mild cathartic, which does not paſs off ſo haſtily as the *ſal catharticus amarus*, or *ſal Glauberi*, and ſeems to extend its action further. The wholeſale dealers in medicines have comonly ſubſtituted for it an article otherwiſe almoſt uſeleſs in their ſhops, the reſiduum of Glauber's ſpirit of nitre. This may be looked on as a venial fraud, if the ſpirit has been prepared as formerly directed, and the reſiduum diſſolved and cryſtallized: but it is a very dangerous one if the vitriolic acid has been uſed in an over proportion, and the caput mortuum employed without cryſtallization; the ſalt in this caſe, inſtead of a mild neutral one, of a moderately bitter taſte, proving highly acid. The purchaſer ought therefore to inſiſt on the ſalt being in a cryſtalline form. The cryſtals when perfect, are oblong, with ſix flat ſides, and terminated at each end by a ſix-ſided pyramid: ſome appear compoſed of two pyramids joined together by the baſes; and many, in the moſt perfect cryſtallizations I have ſeen, are very irregular. They decrepitate in the fire, ſomewhat like thoſe of ſea-ſalt, for which they have ſometimes been miſtaken.

SAL POLYCHRESTUS.

Edin.

Salt of many virtues.

Take

Nitre in powder,

Flowers of ſulphur, of each equal parts.

Mix them well together, and inject the mixture, by little and little at a time, into a red-hot crucible: the deflagration being over, let the ſalt cool, after which it is to be put up in a glaſs veſſel well ſhut. The ſalt may be purified by diſſolving it in warm water, filtering the ſolution, and exhaling it to dryneſs; or by cryſtallization.

This is another method of uniting the vitriolic acid with the common vegetable fixt alkali. Both the nitre and the ſulphur are decompounded in the operation: the acid of the nitre, and the inflammable principle of the ſulphur, detonate together, and are diſſipated; while the acid of the ſulphur (which, as we have already ſeen, if no other than the vitriolic acid) remains com-

combined with the alkaline basis of the nitre. The shops, accordingly, have substituted the foregoing preparation for the sal pochyrest.

NATRON VITRIOLATUM.

Lond.

Vitriolated Natron.

Take of

The salt which remains after the distillation of the muriatic acid, two pounds;

Distilled water, two pints and an half.

Burn out the superfluous acid with a strong fire, in an open vessel; then boil it for a little in the water: strain the solution, and set it by to crystallize.

SODA VITRIOLATA, vulgo SAL CATHARTICUS GLAUBERI.

Edin.

Vitriolated Soda, commonly called *Cathartic salt of Glauber.*

Dissolve in warm water the mass which remains after the distillation of spirit of sea-salt: filtre the solution, and crystallize the salt.

The directions given for the preparation of this salt, long known by the name of Sal mirabile Glauberi, are nearly the same in the pharmacopœias of both colleges but those of the London college are to be preferred, as being most accurate and explicit.

In a former edition of the Edinburgh pharmacopœia, it was ordered, that if the crystals (obtained as above) proved too sharp, they should be again dissolved in water, and the filtred liquor evaporated to such a pitch only as may dispose the salt to crystallize. But there is no great danger of the crystals proving too sharp, even when the spirit of salt is made with the largest proportion of oil of vitriol directed under that process. The liquor which remains after the crystallization is indeed very acid; and with regard to this preparation, it is convenient it should be so; for otherwise the crystals will be very small, and likewise in a small quantity. Where a sufficient proportion of oil of vitriol has not been employed in the distillation of the spirit, it is necessary to add some to the liquor, in order to promote the crystallization of the salt.

The title of sal catharticus, which this salt has often had, expresses its medical virtues. Taken from half an ounce to an ounce, or more, it proves a mild and useful purgative; and in smaller doses, largely diluted, a serviceable aperient and diuretic. The shops frequently substitute for it the *sal catharticus amarus*, which is nearly of the same quality, but somewhat more unpleasant, and, as is said, less mild in operation. They are very easily distinguishable from each other, by the effect of alkaline salts upon solutions of them. The solutions of Glauber's salt suffer no visible change from this addition, its own basis being a true fixt alkali: but the solution of the *sal catharticus amarus* grows instantly white and turbid, its basis, which is an earth, being extricated copiously by the alkaline salt.

NITRUM PURIFICATUM.

Lond.

Purified Nitre.

Take of

Nitre, two pounds,

Distilled water, four pints.

Boil the nitre in the water till it be dissolved; strain the solution, and set it aside to crystallize.

Common nitre contains usually a considerable portion of sea-salt, which

which in this proceſs is ſeparated, the ſea-ſalt remaining diſſolved after the greateſt part of the nitre has cryſtallized. The cryſtals which ſhoot after the firſt evaporation are large, regular, and pure: but when the remaining liquor is further evaporated, and this repeated a ſecond or third time, the cryſtals prove at length ſmall, imperfect, and tipt with little cubical cryſtals of ſea ſalt.

When rough nitre, in the ſtate wherein it is firſt extracted from the earths impregnated with it, is treated in this manner: there remains at laſt a liquor, called mother-ley which will no longer afford any cryſtals. This appears to participate of the nitrous and marine acids, and to contain an earthy matter diſſolved by thoſe acids. On adding alkaline lixivia, the earth is precipitated; and when throughly waſhed with water, proves inſipid. If the liquor be evaported to dryneſs, a bitteriſh ſaline matter is left; which being ſtrongly calcined in a crucible, parts with the acids, and becomes, as in the other caſe, inſipid.

This earth has been celebrated as an excellent purgative, in the doſe of a dram or two; and, in ſmaller doſes, as an alterant in hypochondriacal and other diſorders. This medicine was for ſome time kept a great ſecret, under the name of *Magneſia alba*, *Nitrous panacea*, *Count Palma's powder*, *Il polvere albo Romano*, *Poudre de Sentinelli*, &c. till Lanciſi made it public in his notes on the *Metallotheca Vaticana*. It has been ſuppoſed, that this earth is no other than a portion of the lime commonly added in the elixation of nitre at the European nitre-works: but though the ſpecimens of magneſia examined by Neumann, and ſome of that which has lately been brought hither from abroad, gave plain marks of a calcareous nature; yet the true magneſia muſt be an earth of a different kind, calcareous earths being rather aſtringent than purgative. The earthy baſis of the *ſal catharticus amarus* is found to have the properties aſcribed to the true magneſia of nitre, and appears to be the very ſame ſpecies of earth: from that ſalt therefore this medicine is now prepared, as will be ſeen hereafter. The magneſia alba differs from calcareous earths, in having a leſs powerful attraction for fixed air, and in not becoming cauſtic by calcination.

KALI ACETATUM.

Lond.

Acetated Kali.

Take of

Kali, one pound.

Boil it, with a ſlow fire, in four or five times its quantity of diſtilled vinegar; the effervescence ceaſing, let there be added, at different times, more diſtilled vinegar, until the laſt vinegar being nearly evaporated, the addition of freſh will excite no effervescence, which will happen when about twenty pounds of diſtilled vinegar are conſumed; afterwards let it be dried ſlowly. An impure ſalt will be left, which melt for a little while with a ſlow fire; then let it be diſſolved in water, and filtered through paper.

If the fuſion has been rightly performed, the ſtrained liquor will be colourleſs; if otherwiſe, of a brown colour.

Laſtly, evaporate this liquor with a ſlow fire, in a very ſhallow glaſs veſſel; frequently ſtirring the maſs, that the ſalt may be more completely dried, which ſhould be kept in a veſſel cloſe ſtopt.

The ſalt ought to be very white, and diſſolve wholly, both in water and ſpirit of wine, without leaving

ing any feces. If the salt, although white, should depositе any feces in spirit of wine, that solution in the spirit should be filtered through paper, and the salt again dried.

ALCALI FIXUM VEGETABILE ACETATUM, vulgo TARTARUM REGENERATUM.

Edin.

Acetated fixed vegetable Alkali, commonly called *Regenerated Tartar.*

Take of

Salt of tartar, one pound.

Boil it with a very gentle heat in four or five times its quantity of distilled vinegar; add more distilled vinegar, at different times, till on the watery part of the former quantity being nearly dissipated by evaporation, the new addition of vinegar ceases to raise any effervescence. This happens, when about twenty pounds by weight of distilled vinegar has been consumed. The impure salt remaining after the exsiccation, is to be liquefied with a gentle heat for a short time, and it is proper that it should only be for a short time; then dissolve it in water, and strain through paper. If the liquefaction has been properly performed, the strained liquor will be limpid; but if otherwise, of a brown colour.

Evaporate this liquor with a very gentle heat in a shallow glass vessel, occasionally stirring the salt as it becomes dry, that its moisture may sooner be dissipated. Then put it up into a vessel very closely stopt, to prevent it from liquefying in the air.

This salt had formerly the name of Sal diureticus in the London pharmacopœia; but that which they now employ, or perhaps in preference to it, the name of Potassa acetata gives a clearer idea of its nature.

The purification of this salt is not a little troublesome. The operator must be particularly careful in melting it, not to use a great heat, or to keep it long liquefied: a little should be occasionally taken out, and put into water; and as soon as it begins to part freely with its black colour, the whole is to be removed from the fire. In the last drying, the heat must not be so great as to melt it; otherwise it will not prove totally soluble. If the solution in spirit of wine be exsiccated, and the remaining salt liquefied with a very gentle fire, it gains the leafy appearance which has procured it the name *Terra foliata.*

In the fourth volume of the Memoirs of the correspondents of the French Academy, lately published, Mr Cadet has given a method of making the salt white at the first evaporation, without the trouble of any further purification. He observes, that the brown colour depends on the oily matter of the vinegar being burnt by the heat commonly employed in the evaporation; and his improvement consists in diminishing the heat at the time that this burning is liable to happen. The process he recommends is as follows:

Dissolve a pound of salt of tartar in a sufficient quantity of cold water; filtre the solution, and add by degrees as much distilled vinegar as will saturate it, or a little more. Set the liquor to evaporate in a stone-ware vessel in a gentle heat, not so strong as to make it boil. When a pellicle appears

pears on the surface, the rest of the process must be finished in a water-bath. The liquor acquires by degrees an oily consistence, and a pretty deep brown colour; but the pellicle or scum on the top looks whitish, and when taken off and cooled, appears a congeries of little brilliant silver-like plates. The matter is to be kept continually stirring, till it be wholly changed into this white flaky matter; the complete drying of which is most conveniently effected in a warm oven.

We shall not take upon us to determine whether the pure or impure salt is preferable as a medicine; observing only, that the latter is more of a saponaceous nature, the former more acrid, though somewhat more agreeable to the stomach. Mr Cadet reckons the salt prepared in his method superior both to the brown and white sorts made in the common way, as possessing both the oily quality of the one and the agreeableness of the other, and as being always uniform or of the same power; whereas the others are liable to vary considerably, according to the degree of heat employed in the evaporation. They are all medicines of great efficacy, and may be so dosed and managed as to prove either mildly cathartic, or powerfully diuretic: few of the saline deobstruents come up to them in virtue. The dose is from half a scruple to a dram or two. A bare mixture, however, of alkaline salt and vinegar, without exsiccation, is not perhaps much inferior as a medicine to the more elaborate salt. Two drams of the alkali, saturated with vinegar, have been known to occasion ten or twelve stools in hydropic cases, and a plentiful discharge of urine, without any inconvenience.

AQUA AMMONIÆ ACETATÆ.

Lond.

Water of acetated Ammonia.

Take of

Ammonia, by weight, two ounces;

Distilled vinegar, four pints; or as much as is sufficient to saturate the ammonia.

Mix.

SPIRITUS MINDERERI.

Edinb.

Spirit of Mindererus.

Take any quantity of the volatile alkaline salt of sal ammoniac, and gradually pour upon it distilled vinegar till the effervescence ceases; occasionally stirring the mixture to promote the action of the vinegar on the salt.

Though this article has long been known by the name of Spiritus Mendereri, so called from the inventor; yet that employed by the London college is undoubtedly preferable, as giving a proper idea of its constituent parts.

This is an excellent aperient saline liquor. Taken warm in bed, it proves commonly a powerful diaphoretic or sudorific; and as it operates without heat, it has place in febrile and inflammatory disorders, where medicines of the warm kind, if they fail of procuring sweat, aggravate the distemper. Its action may likewise be determined to the kidneys, by walking about in a cool air. The common dose is half an ounce, either by itself, or along with other medicines adapted to the intention. Its strength is not a little precarious, depending much on that of the vinegar; an inconvenience which cannot easily be obviated, for the saline matter

is

is not reducible to the form of a concrete salt.

KALI TARTARISATUM.

Lond.

Tartarised Kali.

Take of

Kali one pound.

Crystals of tartar, three pounds;

Distilled water, boiling, one gallon.

To the salt, dissolved in water, throw in gradually the crystals of tartar, powdered: filtre the liquor, when cold, through paper: and, after due evaporation, set it apart to crystallize.

ALCALI FIXUM VEGETABILE TARTARISATUM, vulgo TARTARUM SOLUBILE.

Edin.

Tartarized vegetable fixed Alkali, commonly called *Soluble Tartar.*

Take of

Purified fixt vegetable alkaline salt one pound;

Water, fifteen pounds.

To the salt dissolved in the boiling water gradually add crystals of tartar in fine powder, as long as the addition thereof raises any effervescence, which almost ceases before three times the weight of the alkaline salt hath been injected; then strain the cooled liquor through paper, and after due evaporation set it aside to crystallize.

Common white tartar is perhaps preferable for this operation to the crystals usually met with. Its impurities can here be no objection; since it will be sufficiently depurated by the subsequent filtration.

The preparation of this medicine by either of the above methods is very easy; though some chemists have rendered it sufficiently troublesome, by a nicety which is not at all wanted. They insist upon hitting the very exact point of saturation between the alkaline salt and the acid of the tartar; and caution the operator to be extremely careful, when he comes near this mark, lest by imprudently adding too large a portion of either, he render the salt too acid or too alkaline. If the liquor be suffered to cool a little before it be committed to the filtre, and then properly exhaled and crystallized, no error of this kind can happen, tho' the saturation should not be very exactly hit: for since crystals of tartar are very difficultly soluble even in boiling water, and when dissolved therein concrete again upon the liquor's growing cold, if any more of them has been employed than is taken up by the alkali, this superfluous quantity will be left upon the filtre; and on the other hand when too much of the alkali has been used, it will remain uncrystallized. The crystallization of this salt indeed cannot be effected without a good deal of trouble: it is therefore most convenient to let the acid salt prevail at first; to separate the superfluous quantity, by suffering the liquor to cool a little before filtration; and then proceed to the total evaporation of the aqueous fluid, which will leave behind it the neutral salt required. The most proper vessel for this purpose is a stone-ware one; iron discolours the salt.

Soluble tartar, in doses of a scruple, half a dram, or a dram, is a mild cooling aperient: two or three drams commonly loosen the belly; and an ounce proves pretty strongly purgative. It has been particularly recommended as a purgative for maniacal and melancholic patients. Malouin says, it is equal in purga-

tive virtue to the cathartic ſalt of Glauber. It is an uſeful addition to the purgatives of the reſinous kind, as it promotes their operation, and at the ſame time tends to correct their griping quality. But it muſt never be given in conjunction with any acid; for all acids decompound it, abſorbing its alkaline ſalt, and precipitating the tartar. On this account it is improper to join it to tamarinds, or ſuch like acid fruits; which is too often done in the extemporaneous practice of thoſe phyſicians who are fond of mixing different cathartics together.

NATRON TARTARISATUM

Lond.

Tartarized Natron.

Take of

Natron, twenty ounces;
Cryſtals of tartar, powdered, two pounds;
Diſtilled water, boiling, ten pints.

Diſſolve the natron in the water, and gradually add the cryſtals of tartar: filtre the liquor through paper; evaporate, and ſet it aſide to cryſtallize.

SODA TARTARISATA, vulgo SAL RUPELLENSIS.

Edinb.

Tartarized Soda, commonly called *Rochel Salt.*

The *Sal Rupellenſis* may be prepared from purified foſſile alkaline ſalt and cryſtals of tartar, in the ſame manner as directed for the *tartarum ſolubile.*

This is a ſpecies of ſoluble tartar, made with the ſalt of kali or ſoda, which is the ſame with the mineral alkali, or baſis of ſea-ſalt. It cryſtallizes far more eaſily than the preceding preparation, and does not, like it, grow moiſt in the air. It is alſo conſiderably leſs purgative, but is equally decompounded by acids. It appears to be a very elegant ſalt, and begins now to come into eſteem in this country, as it has long been in France.

ALUMINIS PURIFICATIO.

Lond.

Purification of Alum.

Take of

Alum, one pound;
Chalk, one dram by weight;
Diſtilled water, one pint.

Boil them a little, ſtrain, and ſet the liquor aſide to cryſtallize.

We have already offered ſome obſervations on alum in the Materia Medica; and in general it comes from the alum works in England in a ſtate of ſuch purity as to be fit for every purpoſe in medicine: accordingly we do not obſerve that the purification of alum has a place in any other pharmacopœias; but by the preſent proceſs it will be freed, not only from different impurities, but alſo from ſuperabundant acid.

ALUMEN USTUM.

Lond. Edinb.

Burnt Alum.

Take of

Alum, half a pound.

Burn it in an earthen veſſel ſo long as it bubbles.

This, with ſtrict propriety, ought rather, perhaps, to be called dried alum than burnt alum: for the only effect of the burning here directed is to expel the water. In this ſtate it is ſo acrid as to be frequently employed as an eſcharotic; and it is with this intention, chiefly, that it has a place in our pharmacopœias: but it has ſometimes alſo been taken internally, particularly in caſes of cholic,

SAL five SACCHARUM LACTIS.

Suec.

Take of the whey of milk, prepared by runnet, any quantity: let it be boiled over a moderate fire to the conſiſtence of a ſyrup; then put it in a cold place, that cryſtals may be formed. Let the fluid which remains be again managed in the ſame manner, and let the cryſtals formed be waſhed with cold water.

It has been by ſome imagined, that the ſuperiority of one milk over another depends on its containing a larger proportion of this ſaline or ſaccharine part; and particularly, that upon this the reputed virtues of aſs milk depend. Hence this preparation has been greatly celebrated in diſorders of the breaſt, but is far from anſwering what has been expected from it. It has little ſweetneſs, and is difficult of ſolution in water. A ſaline ſubſtance, much better deſerving the name of ſugar, may be obtained by evaporating new milk, particularly that of the aſs, to dryneſs, digeſting the dry matter in water till the water has extracted its ſoluble parts, and then inſpiſſating the filtered liquor. This preparation is of great ſweetneſs, though neither white nor cryſtalline; nor is it perhaps in the pure cryſtallizable parts of milk that its medicinal virtues reſide; and ſo little reliance is put on it as a medicine, that it has no place in the London or Edinburgh pharmacopœias; although it long has ſtood, and ſtill ſtands, in the foreign ones.

SAL ACETOSELLÆ.

Suec.

Salt of ſorrel.

Take any quantity of the expreſſed juice of the leaves of wood-ſorrel; let it boil gently, that the feculent matter may be ſeparated; then ſtrain it till it be clear, and after this boil it on a moderate fire to the conſiſtence of a ſyrup. Put it into long necked glaſs veſſels, and place it in a cold ſituation that it may cryſtallize. Let theſe cryſtals be diſſolved in water, and again formed into purer ones.

To make the ſorrel yield its juice readily, it ſhould be cut to pieces, and well bruiſed in a ſmall mortar, before it be committed to the preſs. The magma which remains in the bag ſtill retaining no inconſiderable quantity of ſaline matter, may be advantageouſly boiled in water, and the decoction added to the expreſſed juice. The whole may be afterwards depurated together, either by the method above directed, or by running the liquor ſeveral times through a linen cloth. In ſome caſes, the addition of a conſiderable portion of water is neceſſary, that the juice, thus diluted, may part the more freely with its feculencies; on the ſeparation of which the ſucceſs of the proceſs much depends.

The evaporation ſhould be performed either in ſhallow glaſs baſons, or in ſuch earthen ones as are of a compact cloſe texture; ſuch are thoſe uſually called ſtone-ware. The common earthen veſſels are ſubject to have their glazing corroded, and are ſo extremely porous, as readily to imbibe and retain a good quantity of the liquor; metallic veſſels are particulary apt to be corroded by theſe acid kinds of juices.

Theſe juices are ſo viſcid, and abound ſo much with heterogeneous matter, of a quite different nature from any thing ſaline, that a pellicle, or pure ſaline incruſtation upon

upon the surface, is in vain expected. Boerhaave therefore, and the more expert writers in pharmaceutical chemistry, with great judgement direct the evaporation of the superfluous moisture to be continued until the matter has acquired the consistence of cream. If it be now suffered to stand for an hour or two in a warm place, it will, notwithstanding the former depurations, deposite a fresh sediment, from which it should be warily decanted before it be put into the vessel in which it is designed to be crystallized.

Some recommend an unglazed earthen vessel as preferable for this purpose to a glass one; the smoothness of the latter being supposed to hinder the salt from sticking thereto; while the juice easily insinuating itself into the pores of the former, has a great advantage of shooting its saline spicula to the sides. Others slightly incrustate the sides and bottom of whatever vessel they employ with a certain mineral salt, which greatly disposes the juice to crystallize, to which of itself it is very averse: but this addition is, with regard to its medical virtue, quite different from the salt here intended.

The liquor which remains after the crystallization may be depurated by a gentle colature, and after due inspissation set to shoot again; when a farther produce of crystals will be obtained.

The process for obtaining this salt is very tedious; and the quantity of salt which the juices afford is extremely small: hence they are hardly ever made or expected in the shops. They may be somewhat sooner separated from the mucilage and other feculencies, by clarification with whites of eggs, and by adding very pure white clay.

In the manner above described, salts may also be obtained from other acid, austere, and bitterish plants, which contain but a small quantity of oil.

The virtues of the essential salts have not been sufficiently determined from experience. Thus much, however, is certain, that they do not, as has been supposed, possess the virtues of the subjects entire, excepting only the acids and sweets. The others seem to be, almost all of them, nearly similar, whatever plant they were obtained from. In watery extracts of wormwood, carduus, camomile, and many other vegetables, kept for sometime in a soft state, there may be observed fine saline efflorescences on the surface, which have all nearly the same taste, somewhat of the nitrous kind. They are supposed by some to be in reality no more than an impure species of volatile nitre (that is, a salt composed of the nitrous acid and volatile alkali): those which were examined by the chemists of the French academy deflagrated in the fire, and being triturated with fixt alkali, exhaled an urinous odour; plain marks of their containing those two ingredients.

SAL ACIDUM BORACIS.

Suec.

Acid Salt of Borax.

Take of

Borax, an ounce and a half,

Warm spring-water, one pound.

Mix them in a glass vessel, that the borax may be dissolved; then pour into it three drams of the concentrated acid of vitriol: evaporate the liquor till a pellicle appears upon it; after this let it remain at rest till the crystals be formed. Let them be washed with cold water and kept for use.

This ſalt, which has long been known by the title of *Sal ſedativus Hombergii*, is not unfrequently formed by ſublimation: but the proceſs by cryſtallization here directed is leſs troubleſome, though the ſalt proves generally leſs white, and is apt likewiſe to retain a part of Glauber's ſalt, eſpecially if the evaporation be long protracted.

The ſalt of borax to the taſte appears to be a neutral; but when it is examined by alkalies, it ſhews the properties of an acid, effervescing, uniting, and cryſtallizing with them, and it deſtroys their alkaline quality. It diſſolves both in water and ſpirit of wine, although not very readily in either.

The virtues attributed to it may in ſome degree be inferred from the name of *ſedative*, by which it was long diſtinguiſhed. It has been ſuppoſed to be a mild anodyne, to diminiſh febrile heat, to prevent or remove delirium; and to allay, at leaſt for ſome time, ſpaſmodical affections, particularly thoſe which are the attendants of hypochondriaſis and hyſteria. It may be given in doſes from two to twenty grains.

SAL AMMONIACUM DEPURATUM.

Suec.

Purified Sal ammoniac.

Diſſolve ſal ammoniac in ſpring-water; ſtrain the liquor through paper; evaporate it to dryneſs in a glaſs veſſel by means of a moderate fire.

The ſal ammoniac imported from the Mediterranean often contains ſuch impurities as to render the above proceſs neceſſary; but that which is prepared in Britain from ſoot and ſea-ſalt, is in general brought to market in a ſtate of very great purity. Hence this proceſs is now altogether omitted both in the London and Edinburgh pharmacopœias. It furniſhes, however, when neceſſary, an eaſy and effectual mode of obtaining a pure ammonia muriata.

CHAP.

CHAP. VIII.

MAGNESIA.

MAGNESIA.

MAGNESIA ALBA.
Lond.
White Magnesia.

Take of
Biter purging salt,
Kali, each two pounds;
Distilled water, boiling, twenty pints.

Dissolve the bitter salt and the kali separately in ten pints of water, and filtre through paper; then mix them. Boil the liquor a little while, and strain it while hot through linen, upon which will remain the white magnesia; then wash away, by repeated affusions of distilled water, the vitriolated kali.

MAGNESIA ALBA.
Edinb.
White Magnesia.

Take of
Bitter purging salt,
Purified fixed vegetable alkali, equal weights.

Dissolve them separately in double their quantity of warm water, and let the liquor be strained or otherwise freed from the feces: then mix them, and instantly add eight times their quantity of warm water. Let the liquor boil a little, stirring it very well at the same time; then let it rest till the heat be somewhat diminished; after which strain it through a cloth: the magnesia will remain upon the cloth, and it is to be washed with pure water till it be altogether void of saline taste.

The processes here directed by the London and Edinburgh colleges are nearly the same; but the former seem to have improved somewhat on the latter, both in simplifying the process, and in the employment of distilled water.

The *sal catharticus amarus*, or *Epsom salt*, is a combination of the vitriolic acid and magnesia. In this process then, a double elective attraction takes place: the vitriolic acid forsakes the magnesia and joins the mild alkali, for which it has a greater attraction; while the magnesia in its turn unites with the fixed air discharged from the mild alkali, and ready to be absorbed by any substance with which it can combine.

We have therefore two new products, viz. a vitriolated tartar, and magnesia united with fixed air. The former is dissolved in the water, and may be preserved for use; the latter, as being much less soluble, sinks to the bottom of the vessel.

The

The intention of employing such a large quantity of water and of the boiling is, that the vitriolated tartar may be all thoroughly dissolved, this salt being so scarcely soluble in water, that without this expedient a part of it might be precipitated along with the magnesia. It might perhaps be more convenient to employ the mineral alkali; which forming a Glauber's salt with the vitriolic acid, would require less water for its suspension. By the after ablutions, however, the magnesia is sufficiently freed from any portion of vitriolated tartar which may have adhered to it.

The ablutions should be made with very pure water; for nicer purposes distilled water may be used with advantage; and soft water is in every case necessary. Hard water for this process is peculiarly inadmissible, as the principle in waters giving the property called *hardness*, is generally owing to an imperfect nitrous selenite, whose base is capable of being disengaged by magnesia united with fixed air. For though the attraction of magnesia itself to the nitrous acid, is not greater than that of calcareous earths; yet when combined with fixed air, a peculiar circumstance intervenes, whence it is deducible, that the sum of the forces tending to join the calcareous earth with the air of the magnesia, and the magnesia with the acid, is greater than the sum of the forces tending to join the calcareous earth with the acid, and the magnesia with the fixed air.

This phenomenon must therefore depend on the presence of fixed air, and its greater attraction for lime than for magnesia. On this account, if hard water be used, a quantity of calcareous earth must infallibly be deposited on the magnesia; while the nitrous acid with which it was combined in the water, will in its turn attach itself to a portion of the magnesia, forming what may be called a *nitrous magnesia*.

All the alkalies and also calcareous earths, have a greater attraction for fixed air than magnesia has: Hence, if this last be precipitated from its solution in acids by caustic alkali, it is then procured free from fixed air: but for this purpose calcination is more generally employed in the manner described in the process which next follows. Magnesia is scarcely at all soluble in water; the infinitely small portion which this fluid is capable of taking up, is owing to the fixed air of the magnesia; and it has been lately discovered, that water impregnated with this acid is capable of dissolving a considerable portion: for this purpose it is necessary to employ magnesia already saturated with fixed air, as magnesia deprived of this air would quickly abstract it from the water, whereby the force of the latter would be very considerably diminished. Such a solution of magnesia might be useful for several purposes in medicine.

Magnesia is the same species of earth with that obtained from the mother-ley of nitre, which was for several years a celebrated secret in the hands of some particular persons abroad. Hoffman, who describes the preparations of the nitrous magnesia, gives it the character of an useful antacid, a safe and inoffensive laxative in doses of a dram or two, and a diaphoretic and diuretic when given in smaller doses of fifteen or twenty grains. Since his time, it has had a considerable place in the practice of foreign physicians; and is now in great esteem among us,

par-

particularly in heart-burns, and for preventing or removing the many disorders which children are so frequently thrown into from a redundance of acid humours in the first passages: It is preferred, on account of its laxative quality, to the common absorbents, which, unless gentle purgatives be occasionally given to carry them off, are apt to lodge in the body, and occasion a costiveness very detrimental to infants.

Magnesia alba, when prepared in perfection, is a white and very subtile earth, perfectly void of smell or taste, of the class of those which dissolve in acids. It dissolves freely even in the vitriolic acid; which, in the common way of making solutions, takes up only an inconsiderable portion of other earths. Combined with this acid, it forms the bitter purging, or Epsom salt, very easily soluble in water; while the common absorbents form with the same acid almost insipid concretes, very difficult of solution. Solutions of magnesia in all acids are bitter and purgative; while those of the other earths are more or less austere and astringent. A large dose of magnesia, if the stomach contain no acid to dissolve it, does not purge or produce any sensible effect: a moderate one, if an acid be lodged there, or if acid liquors be taken after it, procures several stools; whereas the common absorbents, in the same circumstances, instead of loosening, bind the belly. It is obvious, therefore, that magnesia is specifically different from the other earths, and that it is applicable to several useful purposes in medicine.

Magnesia was formerly made with the mother-water of nitre evaporated to dryness, or precipitated by a fixed alkali. It has gone under different names, as the *White powder of the Count of Palma*, *Powder of Sentinelle*, *Polychrest*, *Laxative powder*, &c. It seems to have got the character *alba* to distinguish it from the dark coloured mineral called also *magnesia* or *manganese*; a substance possessing very different properties. We have not heard that pure native magnesia has been found in its uncombined state. A combination of it with sulphur has been discovered to cover a stratum of coal at Littry in Lower Normandy. It has also been found in certain serpentine earths in Saxony, and in marly and alum earths.

MAGNESIA USTA.

Lond.

Calcined magnesia.

Take of

White magnesia, four ounces.

Expose it to a strong heat for two hours; and, when cold, set it by. Keep it in a vessel closely stopt.

MAGNESIA USTA.

Edin.

Calcined magnesia.

Let magnesia, put into a crucible, be continued in a red heat for two hours; then put it up in close glass vessels.

By this process the magnesia is freed of fixed air; which, according to Dr Black's experiments, constitutes about $\frac{7}{12}$ of its weight. A kind of opaque foggy vapour is observed to escape during the calcination, which is nothing else than a quantity of fine particles of magnesia buoyed off along with a stream of the disengaged air. About the end of the operation, the magnesia exhibits a kind of luminous, or phosphorescent property; and this may be considered as a pretty exact criterion of its being deprived of air.

Cal-

Calcined magnesia is equally mild as when saturated with fixed air; and this circumstance is sufficient to establish a difference between it and calcareous earths; all of which are converted, by calcination, into a caustic quicklime.

The magnesia usta is used for the same general purposes as the magnesia combined with fixed air. In certain affections of the stomach, accompanied with much flatulence, the calcined magnesia is found preferable, not only as containing more of the real earth of magnesia in a given quantity, but as being also deprived of its air. It neutralizes the acid of the stomach, without that extrication of air, which is often a troublesome consequence in employing the aerated magnesia in these complaints. It is proper to observe, that magnesia, whether combined with, or deprived of fixt air, is similar to the mild calcareous earths in promoting and increasing putrefaction. The same has even been observed with respect to the Epsom and some other salts which have this earth for their base.

CHAP. IX.

PREPARATA E SULPHURE.

PREPARATIONS OF SULPHUR.

FLORES SULPHURIS LOTI.

Lond.

Washed flowers of sulphur.

Take of

Flowers of sulphur, one pound;
Distilled water, four pints.

Boil the flowers of sulphur a little while in the distilled water; then pour off this water, and wash off the acid with cold water; lastly, dry the flowers.

In the former editions of our pharmacopœias, directions were given for the preparation of the flowers of sulphur themselves: But as a large apparatus is necessary for doing it with any advantage, it is now scarcely never attempted by the apothecaries. When the flowers are properly prepared, no change is made on the qualities of the sulphur. Its impurities only are separated; and at the same time it is reduced to a finer powder than it can easily be brought to by any other means. But as the flowers of sulphur are generally sublimed in very capacious rooms, which contain a large quantity of air, or in vessels not perfectly close; some of those that arise at first are apt to take fire, and thus are changed into a volatile acid vapour, which mingling with the flowers that sublime afterwards, communicates to them a considerable degree of acidity. In this case, the ablution here directed is for the general use of the medicine absolutely neces-

fary; for the flowers, thus tainted with acid, sometimes occasion gripes, and may, in other respects, be productive of effects different from those of pure sulphur. There are, however, some particular combinations, to which they are supposed to be better adapted when unwashed, such as their union with mercury into æthiops mineral; and accordingly for that preparation the unwashed flowers are directed by the London college.

KALI SULPHURATUM.

Lond.

Sulphurated Kali.

Take of

Flowers of sulphur, one ounce;
Kali, five ounces.

Mix the salt with the melted sulphur, by frequently stirring, until they unite into an uniform mass.

This preparation in the former editions of our pharmacopœias had the name of *hepar sulphuris*.

It is much more convenient to melt the sulphur first by itself, and add the salt of tartar by degrees, as here directed, than to grind them together, and afterwards endeavour to melt them as ordered in former editions: For in this last case the mixture will not flow sufficiently thin to be properly united by stirring; and the sulphur either takes fire, or sublimes in flowers; which probably has been the reason why so large a proportion of it has been commonly directed. Even in the present method a considerable part of the sulphur will be dissipated; and if it were not, the hepar would not be of its due quality: for one part of sulphur requires two of the alkaline salt to render it perfectly soluble in water, which this preparation ought to be.

The hepar sulphuris has a fetid smell, and a nauseous taste. Solutions of it in water, made with sugar into a syrup, have been recommended in coughs and other disorders of the breast. Our Pharmacopœias, nevertheless, have deservedly rejected this syrup, as common practice has almost done the balsams. Solutions of the hepar, in water, have been also recommended in herpetic and other cutaneous affections. Some physicians have even employed this solution, in a large quantity, as a bath for the cure of psora; and in cases of tinea capitis, it has often been used by way of lotion.

The hepar, digested in rectified spirit of wine, imparts a rich gold colour, a warm, somewhat aromatic taste, and a peculiar, not ungrateful smell. A tincture of this kind is kept in the shops under the name of another mineral. The hepar sulphuris has been by some strongly recommended to prevent the effects of mineral poison.

OLEUM SULPHURATUM ET PETROLEUM SULPHURATUM.

Lond.

Sulphurated Oil and Sulphurated Petroleum.

Take of

Flowers of sulphur, four ounces;
Olive oil, sixteen ounces.

Boil the flowers of brimstone, with the oil, in a pot slightly covered, until they be united.

In the same manner is made *sulphurated petroleum*.

These articles are analogous to what had formerly a place in our pharmacopœias under the titles of *Balsamum sulphuris simplex, crassum et Barbadense*. And besides these,

a place was also given to the balsamum sulphuris anisatum, terebinthinatum, &c. While these articles, however, are now banished from our pharmacopœias, even those retained are less in use than formerly.

These preparations are more conveniently and safely made in a tall glass body, with the mouth at least an inch in diameter, than in the circulatory or close vessels in which they have commonly been directed to be prepared: for when the sulphur and oil begin to act vehemently upon each other, they not only rarify into a large volume, but likewise throw out impetuously great quantities of an elastic vapour; which, if the vessels be closed, or the orifices not sufficient to allow it a free exit, will infallibly burst them: Hoffman relates a very remarkable history of the effects of an accident of this kind. In the vessel above recommended, the process may be completed, without danger, in four or five hours, by duly managing the fire, which should be very gentle for some time, and afterwards increased so as to make the oil just bubble or boil; in which state it should be kept till all the sulphur appears to be taken up.

Essential oils employed as menstrua for sulphur, undergo a great alteration from the degree of heat necessary for enabling them to dissolve the sulphur; and hence the balsams have not near so much of their flavour as might be expected. It should therefore seem more eligible to add a proper quantity of the essential oil to the simple balsam; these readily incorporate by a gentle warmth, if the vessel be now and then shaken. We may thus compose a balsam more elegant than those made in the manner formerly recommended, and which retains so much of the flavour of the oil, as is in some measure sufficient to cover the taste of the sulphur, and render it supportable.

The balsams of sulphur have been strongly recommended in coughs, consumptions, and other disorders of the breast and lungs: But the reputation which they have had in these cases, does not appear to have been built on any fair trial or experience of their virtues. They are manifestly hot, acrimonious, and irritating; and therefore should be used with the utmost caution. They have frequently been found to injure the appetite, offend the stomach and viscera, parch the body, and occasion thirst and febrile heats. The dose of the simple balsam is from ten to forty drops: those with essential oils are not given in above half these quantities. Externally, they are employed for cleansing and healing foul running ulcers. Boerhaave conjectures, that their use in these cases gave occasion to the virtues ascribed to them when taken internally.

SULPHUR PRÆCIPITATUM.

Lond.

Precipitated Sulphur.

Take of

Sulphurated kali, six ounces;
Distilled water, one pound and an half;
Vitriolic acid, diluted, as much as is sufficient.

Boil the sulphurated kali in the distilled water until it be dissolved. Filter the liquor through paper, to which add the vitriolic acid. Wash the precipitated powder by often pouring on water till it becomes insipid.

This preparation is not so white as that of the last pharmacopœia, which

which was made with quicklime; and which in ſome pharmacopœias had the name of *lac ſulphuris*.

Pure lac ſulphuris is not different in quality from pure ſulphur itſelf: to which it is preferred in unguents, &c. only on account of its colour. The whiteneſs does not proceed from the ſulphur having loſt any of its parts in the operation, or from any new matter ſuperadded: for if common ſulphur be ground with alkaline ſalts, and ſet to ſublime, it riſes of a like white colour, the whole quantity of the alkali remaining unchanged; and if the lac be melted with a gentle fire, it returns into yellow ſulphur again.

It may be obſerved, that the name *lac ſulphuris*, or *milk of ſulphur*, applied among us to the precipitate, is by the French writers confined to the white liquor before the precipitate has fallen from it.

CHAP. X.

PRÆPARATA ANTIMONII.

PREPARATIONS OF ANTIMONY.

ANTIMONY is compoſed of a metal, united with ſulphur or common brimſtone.

If powdered antimony be expoſed to a gentle fire, the ſulphur exhales; the metallic part remaining in form of a white calx, reducible, by proper fluxes, into a whitiſh brittle metal, called *regulus*. This is readily diſtinguiſhed from the other bodies of that claſs, by its not being ſoluble in aquafortis; its proper menſtruum is aqua regia.

If aqua regia be poured on crude antimony, the metallic part will be diſſolved; and the ſulphur thrown out, partly to the ſides of the veſſel, and partly to the ſurface of the liquor, in the form of a greyiſh yellow ſubſtance. This, ſeparated and purified by ſublimation, appears on all trials the ſame with pure common brimſtone.

The metal freed from the ſulphur naturally blended with it, and afterwards fuſed with common brimſtone, reſumes the appearance and qualities of crude antimony.

THE antimonial metal is a medicine of the greateſt power of any known ſubſtance; a quantity too minute to be ſenſible in the tendereſt balance, is capable of producing violent effects, if taken diſſolved, or in a ſoluble ſtate. If given in ſuch a form as to be immediately miſcible with the animal fluids, it proves violently emetic, if ſo managed as to be more ſlowly acted on, cathartic; and in either caſe, if the doſe be extremely ſmall, diaphoretic. Thus, though vege-

table acids extract so little from this metal, that the remainder seems to have lost nothing of its weight, the tinctures prove in no large doses strongly emetic, and in smaller ones powerfully diaphoretic. The regulus has been cast into the form of pills, which acted as violent cathartics, though without suffering any sensible diminution of weight in their passage through the body; and this repeatedly, for a great number of times.

This metal, divested of the inflammable principle which it has in common with other metallic bodies that are reduced to a calx, becomes indissoluble and inactive. The calx nevertheless, urged with a strong fire, melts into a glass, which is as easy of solution, and as violent in operation, as the regulus itself: the glass, thoroughly mixed with such substances as prevents its solubility, as wax, resins, and the like, is again rendered mild.

Vegetable acids, as has already been observed, dissolve but an extremely minute portion of this metal: the solution nevertheless is powerfully emetic and cathartic. The nitrous and vitriolic acids only corrode it into a powder, to which they adhere so slightly as to be separable in a considerable degree by water, and totally by fire, leaving the regulus in form of a calx similar to that prepared by fire alone. The marine acid has a very different effect; this reduces the regulus into a violent corrosive; and though it difficultly unites, yet it adheres so very closely as not to be separable by any ablution, nor by fire, the regulus arising along with it. The nitrous or vitriolic acids expel the marine, and thus reduce the corrosive into a calx similar to the foregoing.

Sulphur remarkably abates the power of this metal: and hence crude antimony, in which the regulus appears to be combined with sulphur, from one-fourth to one-half its weight, proves altogether mild. If a part of the sulphur be taken away, by such operations as do not destroy or calcine the metal, the remaining mass becomes proportionally more active.

The sulphur of antimony may be expelled by deflagration with nitre: the larger the quantity of nitre, to a certain point, the more of the sulphur will be dissipated, and the preparation will be the more active. If the quantity of nitre be more than sufficient to consume the sulphur, the rest of it, deflagrating with the inflammable principle of the regulus itself, renders it again mild.

The sulphur of antimony is likewise absorbed, in fusion, by certain metals, and by alkaline salts. These last, when united with sulphur, prove a menstruum for all the metals (zinc excepted); and hence, if the fusion be long continued, the regulus is taken up, and rendered soluble in water.

From these particulars with respect to antimony, it may naturally be concluded, that it not only furnishes us with an useful and active medicine, but that it may also be exhibited for medical purposes under a great variety of different forms, and that the effects of these will be considerably diversified. And this has in reality been the case. When treating of antimony in the materia medica, we have not only offered some observations on its medical, but have also exhibited a view of its different preparations for medical purposes, thrown into a tabular form by Dr Black. But although

though there is perhaps no preparation there mentioned, which is not fitted to ſerve ſome uſeful purpoſe; yet the colleges both of London and Edinburgh have now reſtricted the number of preparations in their pharmacopœias to a few only. And it is highly probable, that from the proper employment of them, every uſeful purpoſe to be anſwered by antimony may be accompliſhed.

ANTIMONIUM CALCINATUM.

Lond.

Calcined Antimony.

Take of

Antimony, powdered, eight ounces.

Nitre, powdered, two pounds.

Mix them, and caſt the mixture by degrees into a red hot, crucible. Burn the white matter about half an hour; and, when cold, powder it; after which waſh it with diſtilled water.

In the laſt edition of the London Pharmacopœia this preparation had the name of *calx antimonii*; and it may be conſidered as at leaſt very nearly approaching to ſome other antimonials of the old pharmacopœias, particularly to the antimonium diaphoreticum nitratum, antimonium diaphoreticum lotum, and the nitrum ſtibiatum; none of which are now received as ſeparate formulas of our phamacopœia, and indeed even the calx antimonii itſelf, at leaſt as thus prepared, has now no place in the Edinburgh pharmacopœia.

The calx of antimony, when freed by waſhing from the ſaline matter, is extremely mild, if not altogether inactive. Hoffman, Lemery and others, aſſure us, that they have never experienced from it any ſuch effects as its uſual title imports: Boerhaave declares, that it is a mere metallic earth, entirely deſtitute of all medicinal virtue: and the Committee of the London College admit, that it has no ſenſible operation. The common doſe is from five grains to a ſcruple, or half a dram; though Wilſon relates, that he has known it given by half ounces, and repeated two or three times a-day, for ſeveral days together.

Some report that this calx, by keeping for a length of time, contracts an emetic quality: From whence it has been concluded, that the powers of the reguline part are not entirely deſtroyed; that the preparation has the virtues of other antimonials which are given as alteratives; that is, in ſuch ſmall doſes as not to ſtimulate the primæ viæ; and that therefore diaphoreric antimony, or calcined antimony, as it is now more properly ſtyled, is certainly among the mildeſt preparations of that mineral, and may be uſed for children, and ſimilar delicate conſtitutions where the ſtomach and inteſtines are eaſily affected. The obſervation, however, from which theſe concluſions are drawn, does not appear to be well founded: Ludovici relates, that after keeping the powder for four years, it proved as mild as at firſt: and the Straſburgh pharmacopœia, with good reaſon, ſuſpects, that where the calx has proved emetic, it had either been given in ſuch caſes as would of themſelves have been attended with this ſymptom, for the great alexipharmac virtues attributed to it to have occaſioned it to be exhibited even in the more dangerous malignant fevers, and other diſorders which are frequently accompanied with vomiting; or that it had not been ſufficiently calcined, or perfectly freed from ſuch part of the regulus as might remain uncalcined. The

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uncalcined part being groſſer than the true calx, the ſeparation is effected by often waſhing with water, in the ſame manner as directed for ſeparating earthy powders from their groſſer parts.

It has been obſerved, that when diaphoretic antimony is prepared with nitre abounding with ſea-ſalt, of which all the common nitre contains ſome portion, the medicine has proved violently emetic. This effect is not owing to any particular quality of the ſea-ſalt, but to its quantity by which the proportion of the nitre to the antimony is rendered leſs.

The *nitrum ſtibiatum*, as it was called, is produced by the deflagration of the ſulphur of the antimony with the nitre, in the ſame manner as the *ſal polychreſt*, from which it differs no otherwiſe than in retaining ſome portion of the antimonial calx.

Notwithſtanding the doubts entertained by ſome reſpecting the activity of the antimonium calcinatum, yet the London college have in our opinion done right in retaining it. For while it is on all hands allowed, that it is the mildeſt of our antimonials; there are ſome accurate obſervers who conſider it as by no means inefficacious. Thus Dr Healde tells us, that he has been in the habit of employing it for upwards of forty years, and is much deceived, if when genuine, it be not productive of good effects.

CALX ANTIMONII NITRATA.

Edinb.

Nitrated Calx of Antimony.

Take of

Antimony, calcined for making the glaſs of antimony;

Nitre, equal weights.

Having mixed, and put them into a crucible, let them be heated, ſo that the matter ſhall be of a red colour for an hour; then let it be taken out of the crucible, and, after beating it, waſh it repeatedly with warm water till it be inſipid.

Although this preparation agrees nearly in name with the preceding, and has been conſidered as being nearly a complete calx of antimony, yet there can be no doubt that it is a medicine of a much more active nature than the former; and in place of being one of the mildeſt of the antimonials, it often operates with great violence when given in doſes of a few grains only.

But as the effects of every preparation of antimony, not already conjoined with an acid, muſt depend on the quantity and condition of the acid in the ſtomach, ſo the ablution of the baſe of the nitre in this proceſs, gives full power to the acid of the ſtomach to act as far as poſſible on the calx; whereas when the unwaſhed calx is employed, a great quantity of the acid in the ſtomach is neutralized by the alkaline baſe of the nitre adhering to the calx. The *calx antimonii nitrata* is ſuppoſed to be nearly the ſame with the article which has been ſo much celebrated, and has had ſuch an extenſive ſale under the title of *Dr James's fever powder*. And it was as an article which might be employed in the place of James's powder, that the Edinburgh college introduced this into their pharmacopœia. There is, however, reaſon to believe, that the preparation of James's powder is ſomewhat different from that here directed; but their effects, as far as our obſervation goes, appear to be very nearly the ſame.

The *calx antimonii nitrata* has been thought by ſome preferable to emetic

emetic tartar, where the permanent effects of a long-continued nauſea are required, and where we wiſh our antimonials to paſs the pylorus and produce purging. But, like every other preparation where the reguline part is only rendered active by the acid in the ſtomach, the *calx antimonii nitrata* is in all caſes of uncertain operation: ſometimes proving perfectly inert, and at other times very violent in its effects. The doſe is generally ten or twelve grains, and this is often given all at once; an inconvenience not attending the emetic tartar; the quantity and effects of which we can generally meaſure with ſurpriſing minuteneſs.

There is, however, reaſon to believe, that by means of James's powder, and the calx nitrata, an artificial termination of fever is ſometimes accompliſhed, and that too more frequently than by emetic tartar. This perhaps may ſometimes be the conſequence of the violence with which they operate. At the ſame time it muſt be admitted, that even the moſt violent operation by no means enſures an immediate recovery, but that on the contrary it is ſometimes manifeſtly attended with bad effects.

CROCUS ANTIMONII.

Lond.

Crocus of Antimony.

Take of

Antimony, powdered;

Nitre, powdered, of each one pound;

Sea-ſalt, one ounce.

Mix, and put them by degrees into a red hot crucible, and melt them with an augmented heat. Pour out the melted matter; and, when cold, ſeparate it from the ſcoriæ.

Edinb.

Equal parts of antimony and nitre are to be injected by degrees into a red-hot crucible; when the detonation is over, ſeparate the reddiſh metallic matter from the whitiſh cruſt; beat it into a powder, and edulcorate it by repeated waſhings with hot water, till the water comes off inſipid.

Here the antimonial ſulphur is almoſt totally conſumed, and the metallic part left diveſted of its corrector. Theſe preparations, given from two to ſix grains, generally act as violent emetics, greatly diſordering the conſtitution. But the operation, like that of every preparation of antimony whoſe reguline part is not joined with an acid, muſt be liable to variations, according to the quantity and condition of the acid in the ſtomach. Their principal uſe is in maniacal caſes, as the baſis of ſome other preparations; and among the farriers, who frequently give to horſes an ounce or two a day, divided into different doſes as an alterative: in theſe, and other quadrupeds, this medicine acts chiefly as a diaphoretic.

The chemiſts have been accuſtomed to make the crocus with a leſs proportion of nitre than what is directed above; and without any farther melting than what enſues from the heat which the matter acquires by deflagration, which when the quantity is large, is very conſiderable: a little common ſalt is added to promote the fuſion. The mixture is put by degrees into an iron pot or mortar, ſomewhat heated, and placed under a chimney: when the firſt ladleful is in, a piece of lighted charcoal is thrown to it, which ſets the matter on fire; the reſt

reſt of the mixture is then added by little and little; the deflagration is ſoon over, and the whole appears in perfect fuſion: when cold, a conſiderable quantity of ſcoriæ is found on the ſurface; which ſcoriæ are eaſily knocked off with a hammer. The crocus prepared after this manner, is of a redder colour than that of the former editions of the London pharmacopœia. And indeed the method now directed by the London college may be conſidered as founded on this: It differs principally from that of the Edinburgh college in the employment of the ſea-ſalt, by which the proceſs is much facilitated.

ANTIMONIUM MURIATUM.

Lond.

Muriated Antimony.

Take of

The crocus of antimony, powdered;

Vitriolic acid, each one pound;

Dry ſea-ſalt, two pounds.

Pour the vitriolic acid into a retort, adding by degrees the ſea-ſalt and crocus of antimony, previouſly mixed; then diſtil in a ſand-bath. Let the diſtilled matter be expoſed to the air ſeveral days, and then let the fluid part be poured off from the dregs.

CAUSTICUM ANTIMONIALE, vulgo BUTYRUM ANTIMONII.

Edinb.

Butter of Antimony.

Take of

Crude antimony, one part;

Corroſive ſublimate of mercury, two parts.

Grind them firſt ſeparately; then thoroughly mix them together, taking the utmoſt care to avoid the vapours. Put the mixture into a coated glaſs retort (having a ſhort wide neck), ſo as to fill one half of it: the retort being placed in a ſand-furnace, and a receiver adapted to it, give firſt a gentle heat, that only a dewy vapour may ariſe: the fire being then increaſed, an oily liquor will aſcend and congeal in the neck of the retort, appearing like ice, which is to be melted down by a live coal cautiouſly applied. This oily matter is to be rectified in a glaſs retort into a pellucid liquor.

The proceſs here directed by the Edinburgh college, and which is nearly the ſame with what ſtood in the former edition of the London pharmacopœia, is extremely dangerous, inſomuch, that even the life of the operator, though tolerably verſed in common pharmacy, may be much endangered for want of due care. Boerhave relates, that one, who from the title he gives him is not to be ſuppoſed inexpert in chemical operations, or unacquainted with the danger of attending this, was ſuffocated for want of proper care to prevent the burſting of the retort. The fumes which ariſe, even upon mixing the antimony with the ſublimate, are highly noxious, and ſometimes iſſue ſo copiouſly and ſuddenly, as very difficultly to be avoided. The utmoſt circumſpection therefore is neceſſary.

The cauſtic, or butter, as it is called, appears to be a ſolution of the metallic part of the antimony in the marine acid of the ſublimate: the ſulphur of the antimony, and the mercury of the ſublimate, remain at the bottom of the retort, united into an æthiops. This ſolution does not ſucceed with ſpirit of ſalt

ſalt in its liquid ſtate, and cannot be effected, unleſs (as in the caſe of making ſublimate) either the acid be highly concentrated, and both the ingredients ſtrongly heated; or when the antimony is expoſed to the vapours of the acid diſtilled from the black calx of manganeſe. By this laſt proceſs a perfect ſolution of the regulus of antimony in the muriatic acid is effected. Of this more ſimple, more ſafe, and leſs expenſive method of preparing muriated antimony, an account is given by Mr Ruſſel in the Tranſactions of the Royal Society of Edinburgh.

If regulus of antimony were added in the diſtillation of ſpirit of ſea-ſalt without water, a ſolution would alſo be made.

The method, however, now directed by the London college, in which vitriolic acid and ſea-ſalt are employed to give a double elective attraction, is perhaps to be conſidered as preferable to any of the others. In this they have followed very nearly the directions given in the Pharmacopœia Suecica, which are taken from the proceſs of Mr Scheele.

When the congealed matter that ariſes into the neck of the retort is liquefied by the moiſture of the air, it proves leſs corroſive than when melted down and rectified by heat; though, it ſeems, in either caſe, to be ſufficiently ſtrong for the purpoſes of conſuming fungous fleſh and the callous lips of ulcers. It is remarkable, that though this ſaline concrete readily and almoſt entirely diſſolves by the humidity of the air, only a ſmall quantity of white powder ſeparating, it nevertheleſs will not diſſolve on putting water to it directly: even when previouſly liquefied by the air, the addition of water will precipitate the ſolution. And accordingly, by the addition of water is formed that once celebrated article known by the title of *mercurius vitæ*, or *Algeroth's powder*. This preparation, though never uſed by itſelf, is employed both by the Edinburgh and by ſome of the foreign colleges, in the formation of emetic tartar, the moſt uſeful of all the antimonials. And although chemiſts are not altogether agreed with regard to the beſt mode of making the antimonium tartariſatum, yet we ſhall afterwards have occaſion to obſerve, when treating of that article, that the preparation of it from the antimonium muriatum, or rather from its precipitate (Algeroth's powder) is perhaps the beſt mode which has yet been practiſed. And were it even with no other intention than this, a ſafe, eaſy, and cheap method, of forming an antimonium muriatum, may be conſidered as an important improvement in our pharmacopœias.

PULVIS ANTIMONIALIS.

Lond.

Antimonial powder.

Take of

Antimony, coarſely powdered,
Hartſhorn-ſhavings, each two pounds;

Mix, and put them into a wide red-hot iron pot, ſtirring conſtantly till the maſs acquires a grey-colour. Powder the matter when cold, and put it into a coated crucible. Lute to it another crucible inverted, which has a ſmall hole in its bottom: augment the fire by degrees to a red heat, and keep it ſo for two hours. Laſtly, reduce the matter, when cold, to a very fine powder.

In this preparation, the metallic part of the antimony in a ſtate

of calx, will be united with that part of the hartshorn which is indistructible by the action of fire, viz. its absorbent earth. If this powder be properly prepared, it is of a white colour. It is a mild antimonial preparation, and is given as an alterative from three to six grains for a dose. In this quantity, however, it sometimes creates nausea, and even vomits. In larger doses it proves emetic, and operates by stool.

SULPHUR ANTIMONII PRÆCIPITATUM.

Lond.

Precipitated sulphur of Antimony.

Take of

Antimony, powdered, two pounds;
Water of pure kali, four pints;
Distilled water, three pints.

Mix, and boil them with a slow fire for three hours, constantly stirring, and adding the distilled water as it shall be wanted; strain the hot ley through a double linen cloth, and into the liquor, whilst yet hot, drop by degrees as much diluted vitriolic acid as is sufficient to precipitate the sulphur. Wash off, with warm water, the vitriolated kali.

SULPHUR ANTIMONII PRÆCIPITATUM, vulgo SULPHUR AURATUM ANTIMONII.

Edinb.

Golden sulphur of Antimony.

Boil, in an iron pot, four pounds of caustic ley diluted with three pints of water, and throw in by degrees two pounds of powdered antimony; keeping them continually stirring, with an iron spatula, for three hours, over a gentle fire, and occasionally supplying more water. The liquor loaded with the sulphur of antimony, being then strained through a woollen cloth, drop into it gradually, while it continues hot, so much spirit of nitre, diluted with an equal quantity of water, as shall be sufficient to precipitate the sulphur, which is afterwards to be carefully washed with hot water.

The foregoing preparations are not strictly sulphurs; they contain a considerable quantity of the metallic part of the antimony, which is reducible from them by proper fluxes. These medicines must needs be liable to great variation in point of strength; and in this respect they are, perhaps, the most precarious, though some have affirmed that they are the most certain of the antimonial medicines.

They prove emetic when taken on an empty stomach, in a dose of four, five, or six grains; but at present they are scarcely prescribed with this intention; being chiefly used as alterative deobstruents, particularly in cutaneous disorders. Their emetic quality is easily blunted, by making them up into pills with resins or extracts, and giving them on a full stomach: with these cautions, they have been taken in the quantity of sixteen grains a-day, and continued for a considerable time, without occasioning any disturbance upwards or downwards. As their strength is precarious, they should be taken at first in very small doses, and increased by degrees according to their effect.

A composition of the sulphur auratum, with mercurius dulcis, has been found a powerful, yet safe alterative, in cutaneous disorders; and has completed a cure after salivation had failed. In venereal cases, likewise, this medicine has produced excellent effects. A mixture of equal parts of the sulphur and calomel (well triturated together and made

made into pills with extracts, &c.) may be taken from four to eight or ten grains, morning and night; the patient keeping moderately warm, and drinking after each dose a draught of a decoction of the woods, or other similar liquor. This medicine generally promotes perspiration, scarcely occasioning any tendency to vomit or purge, or affecting the mouth.

ANTIMONIUM TARTARISATUM.

Lond.

Tartarised Antimony.

Take of

Crocus of antimony, powdered, one pound and an half;

Crystals of tartar, two pounds;

Distilled water, two gallons.

Boil in a glass vessel about a quarter of an hour: filter through paper, and set aside the strained liquor to crystallize.

TARTARUS ANTIMONIALIS vulgo TARTARUS EMETICUS.

Edin.

Emetic Tartar.

Take of

The causticum antimoniale what quantity you choose; pour it into warm water, in which so much of the purified vegetable fixed alkali has been previously dissolved, that the antimonial powder may be precipitated, which after being well washed is to be dried.

Then to five pounds of water add of this powder nine drams, of crystals of tartar, beat into a very fine powder, two ounces and a half; boil for a little till the powders be dissolved.

Let the strained solution be slowly evaporated in a glass vessel to a pellicle, so that crystals may be formed.

We have here two modes of making the most common, and perhaps we may add the most useful, of all the antimonial preparations, long known in the shops under the name of *emetic tartar*. These modes differ considerably from each other; but in both, the reguline part of the antimony is united with the acid of the tartar. It is perhaps difficult to say to which mode of preparation the preference is to be given; for on this subject the best chemists are still divided in their opinion. The mode directed by the London college is nearly the same with that in former editions of their Pharmacopœia, while that now adopted by the Edinburgh college in which they have nearly followed the Pharmacopœia Rossica, is of later date. That in both ways good emetic tartar may be formed, is very certain: But in our opinion, when it is formed of the precipitate from the muriatic acid, or the *poudre d'Algerotti*, as it has been called, there is the least chance of its being uncertain in its operation: and this method comes recommended to us on the authority of Bergman, Scheele, and some other of the first names in chemistry. Bergman advises, that the calx be precipitated by simple water, as being least liable to variation; and this is the direction followed in the Pharmacopœia Rossica. But when the calx is precipitated by an alkaline ley, as is directed by the Edinburgh college, it is more certainly freed from the muriatic acid, and will of course be milder.

In the after part of the process, whether precipitate or crocus have been used, the quantity of the antimonial ought always to be some drams more than is absolutely necessary for saturating the acid of tartar, so that no crystals may shoot which are not impregnated with the active

active metallic part of the antimony. And in order to secure an uniform strength, some attention is necessary in collecting the crystals, as some may contain more metal than others. After they are all separated from the liquor, they ought to be beat together in a glass mortar into a fine powder, that the medicine may be of uniform strength.

Emetic tartar is, of all the preparations of antimony, the most certain in its operation.

It will be sufficient, in considering the medicinal effects of antimonials, that we should observe, once for all, that their emetic property depends on two different conditions of the reguline part: the first is where the reguline part is only active, by being rendered so from meeting with an acid in the stomach: the second is where the reguline part is already joined with an acid, rendering it active. It is obvious, that those preparations, reducible to the first head, must always be of uncertain operation. Such then is the equal uncertainty in the chemical condition and medicinal effects of the croci, the hepata, and the calces; all of which processes are different steps or degrees of freeing the reguline part from sulphur and phlogiston. It is equally plain, that the preparations coming under the second head, must be always constant and certain in their operation. Such a one is emetic tartar, the dose and effects of which we can measure with great exactness.

The title of this medicine expresses its principal operation. It is one of the best of the antimonial emetics, acting more powerfully than the quantity of crocus contained in it would do by itself, though it does not so much ruffle the constitution. And indeed antimonials in general, when thus rendered soluble by vegetable acids, are more safe and certain in their effects than the violent preparations of that mineral exhibited by themselves; the former never varying in their action from a difference in the food taken during their use, or other similar circumstances; which occasioning more or less of the others to be dissolved, make them operate with different degrees of force. Thus, crude antimony, where acid food has been liberally taken, has sometimes proved, violently emetic; whilst, in other circumstances, it has no such effect.

The dose of emetic tartar, when designed to produce the full effect of an emetic, is from two to four grains. It may likewise be advantageously given in much smaller doses, as a nauseating and sudorific medicine.

ANTIMONIUM VITRIFICATUM.

Lond.

Vitrified Antimony.

Take of

Powdered antimony, four ounces.

Calcine it in a broad earthen vessel, with a fire gradually raised, stirring with an iron rod until it no longer emits a sulphureous smoke. Put this powder into a crucible, so as to fill two-thirds of it. A cover being fitted on, make a fire under it, at first moderate, afterwards stronger, until the matter be melted. Pour out the melted glass.

VITRUM ANTIMONII.

Edin.

Glass of Antimony.

Strew antimony, beat into a coarse powder like sand, upon a shallow unglazed earthen vessel, and apply

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a gentle heat underneath, that the antimony may be heated ſlowly; keeping it at the ſame time continually ſtirring to prevent it from running into lumps. White vapours of a ſulphureous ſmell will ariſe from it. If they ceaſe to exhale with the degree of heat firſt applied, increaſe the fire a little, ſo that vapours may again ariſe: go on in this manner, till the powder, when brought to a red heat, exhales no more vapours. Melt the calx in a crucible with an intenſe heat, till it aſſumes the appearance of melted glaſs; then pour it out on a heated braſs plate or diſh.

The calcination of antimony, in order to procure tranſparent glaſs, ſucceeds very ſlowly, unleſs the operator be wary and circumſpect in the management of it. The moſt convenient veſſel is a broad ſhallow diſh, or a ſmooth flat tile, placed under a chimney. The antimony ſhould be the purer ſort, ſuch as is uſually found at the apex of the cones; this, groſsly powdered, is to be evenly ſpread over the bottom of the pan, ſo as not to lie above a quarter of an inch thick on any part. The fire ſhould be at firſt no greater than is juſt ſufficient to raiſe a fume from the antimony, which is to be now and then ſtirred: when the fumes begin to decay, increaſe the heat, taking care not to raiſe it ſo high as to melt the antimony, or run the powder into lumps: after ſome time the veſſel may be made red-hot, and kept in this ſtate until the matter will not, upon being ſtirred, any longer fume. If this part of the proceſs be duly conducted, the antimony will appear in an uniform powder, without any lumps, and of grey colour.

With this powder fill two-thirds, of a crucible, which is to be covered with a tile, and placed in a wind-furnace. Gradually increaſe the fire till the calx be in perfect fuſion, when it is to be now and then examined by dipping a clean iron wire into it. If the matter which adheres to the end of the wire appears ſmooth and equally tranſparent, the vitrification is completed, and the glaſs may be poured out upon a hot ſmooth ſtone or copperplate, and ſuffered to cool ſlowly to prevent its cracking and flying in pieces. It is of a tranſparent yellowiſh red colour.

The glaſs of antimony uſually met with in the ſhops, is ſaid to be prepared with certain additions; which may, perhaps, render it not ſo fit for the purpoſe here deſigned. By the method above directed, it may be eaſily made of the requiſite perfection without any addition.

As antimony may be rendered nearly or altogether inactive by calcination it might be expected that the calx and glaſs of the preſent proceſs would be likewiſe inert. But here the calcination is far leſs perfect than in the other caſe, where the inflammable principle of the regulus is totally burnt out by deflagration with nitre; there the calx is of perfect whiteneſs, and a glaſs made from that calx (with the addition of any ſaline flux, for of itſelf it will not vitrify) has little colour: but here ſo much of the inflammable principle is left, that the calx is grey, and the glaſs of a high colour. The calcined antimony is ſaid by Boerhave to be violently emetic. Experience has ſhown that the glaſs is ſo, inſomuch as to be unſafe for internal uſe. At preſent it is chiefly employed in forming ſome other antimonial preparations, particularly the vitrum antimonii ceratum, the next article to be mentioned; and the vinum antimonii, afterwards to be treated of under the head of

Wines.

Wines. It is also not unfrequently employed in the formation of emetic tartar; and it was directed for that purpose in the last edition of the Edinburgh pharmacopœia, being perhaps even superior to the crocus antimonii.

VITRUM ANTIMONII CERATUM.

Edinb.

Cerated Glass of Antimony.

Take of

Yellow wax, a dram;

Glass of antimony, reduced into powder, an ounce.

Melt the wax in an iron vessel, and throw into it the powdered glass: keep the mixture over a gentle fire for half an hour, continually stirring it; then pour it out on paper, and when cold grind it into powder.

The glass melts in the wax with a very gentle heat: after it has been about twenty minutes on the fire, it begins to change its colour, and in ten more comes near to that of Scottish snuff; which is a mark of its being sufficiently prepared; the quantity set down above, loses about one dram of its weight in the process.

This medicine was for some time much esteemed in dysenteries: several instances of its good effects in these cases may be seen in the fifth volume of the Edinburgh Essays, from which the above remarks on the preparations are taken. The dose is from two or three grains to twenty, according to the age and strength of the patient. In its operation, it makes some persons sick, and vomit; it purges almost every one; though it has sometimes effected a cure without occasioning any evacuation or sickness. It is now, however, much less used than formerly.

Mr Geoffroy gives two pretty singular preparations of glass of antimony, which seem to have some affinity with this. One is made by digesting the glass, very finely levigated, with a solution of mastich made in spirit of wine, for three or four days, now and then shaking the mixture; and at last evaporating the spirit so as to leave the mastich and glass perfectly mixed. Glass of antimony thus prepared, is said not to prove emetic, but to act merely as a cathartic, and that not of the violent kind. A preparation like this was first published by Hartman, under the name of *Chylista*.

The other preparation is made by burning spirit of wine on the glass three or four times, the powder being every time exquisitely rubbed upon a marble. The dose of this medicine is from ten grains to twenty or thirty: it is said to operate mildly both upwards and downwards, and sometimes to prove sudorific.

CERUSSA ANTIMONII.

Brun.

Ceruse of Antimony.

Take of

Regulus of antimony, one part;

Nitre, three parts.

Deflagrate them together in the manner directed for the antimonium calcinatum.

The result of this process and that formerly directed for the calcined antimony are nearly the same.

It is not necessary to use so much nitre here, as when antimony itself is employed: for the sulphur which the crude mineral contains, and which requires for its dissipation nearly an equal weight of nitre to the antimony, is here already separated. Two parts of nitre to one of the regulus are sufficient. It is better, however, to have an over, than an under, proportion of nitre, less

leſt ſome parts of the regulus ſhould eſcape being ſufficiently calcined.

It may be proper to obſerve, that though crude antimony and the regulus yield the ſame calces, yet the ſalts ſeparated in waſhing the calces are very different. As crude antimony contains common ſulphur, the acid of the ſulphur unites with the alkaline baſis of the nitre, and the reſult is a neutral ſalt. As the regulus contains the phlogiſtic, or inflamable principle, but no ſulphur, the nitre is alkaliſed, as it would be by charcoal or ſuch like inflammable bodies, and is at the ſame time rendered more acrimonious than the common alkaline ſalts; probably owing to the calx abſorbing the air of the alkali. If only equal parts of the regulus and nitre be employed, and the fire kept up ſtrong for an hour or more, the ſalt will prove more cauſtic than even the potential cauſtic of the ſhops. But the cauſticity of the ſalt will ſtill be far greater, if, inſtead of the ſimple regulus of antimony, the martial regulus be uſed.

KERMES MINERALE.

Suec.

Kermes Mineral.

Take of

Crude antimony, powdered, half a pound;

Fixed vegetable alkali, two pounds;

Boiling water, eight ponnds.

Boil them together in an iron pot for a quarter of an hour, continually ſtirring the mixture with an iron ſpatula, and filter as ſpeedily as poſſible while it is hot. The filtered liquor ſet in cool places, will ſoon depoſite a powder which muſt be repeatedly waſhed, firſt with cold, and afterwards with warm, water until it be perfectly inſipid.

This medicine has of late been greatly eſteemed in France eſpecially, under the names of *Kermes mineral pulvis, Carthuſianus poudre des Chartreaux*, &c. It was, originally, a preparation of Glauber, and for ſome time kept a great ſecret, till at length the French king purchaſed the preparation from M. de la Ligerie, for a conſiderable ſum, and communicated it to the public in the year 1720. In virtue, it is not different from the ſulphurs abovementioned; all of them owe their efficacy to a part of the regulus of the antimony, which the alkaline ſalt, by the mediation of the ſulphur, renders ſoluble in water.

Chemiſts are however, divided in their opinions with reſpect to the preciſe chemical condition of the reguline part in the preparations called *Hepata of antimony*. Some have alleged that they contain not a particle of alkaline ſalt: It is at any rate certain, that the quantity and condition of the reguline part muſt vary according to the different proportions of the ingredients, the time of the precipitation, the greater or leſs degree of cauſticity of the alkali employed, and ſeveral other circumſtances. At beſt, the whole of them are liable to the ſame uncertainty in their operation as the calces of antimony.

PANACEA ANTIMONII.

Panacea of Antimony.

Take of

Antimony, ſix ounces;

Nitre, two ounces;

Common ſalt, an ounce and a half;

Charcoal, an ounce.

Reduce them into a fine powder, and put the mixture into a red-hot

hot crucible, by half a ſpoonful at a time, continuing the fire a quarter of an hour after the laſt injection: then either pour the matter into a cone, or let it cool in the crucible; which when cold muſt be broken to get it out. In the bottom will be found a quantity of regulus; above this a compact liver-coloured ſubſtance; and on the top, a more ſpongy maſs: this laſt is to be reduced into powder, edulcorated with water, and dried, when it appears of a fine golden colour.

This preparation is ſuppoſed to have been the baſis of *Lockyer's pills*, which were formerly a celebrated purge. Ten grains of the powder, mixed with an ounce of white ſugar-candy, and made up into a maſs with mucilage of gum tragacanth, may be divided into an hundred ſmall pills; of which one, two, or three, taken at a time, are ſaid to work gently by ſtool and vomit. The compact liver-coloured ſubſtance, which lies immediately above the regulus, operates more ſeverely. This laſt appears to be nearly of the ſame nature with the crocus antimonii, and the former with the ſulphur auratum.

CHAP. XI.

PRÆPARATA EX ARGENTO.

PREPARATIONS of SILVER.

ARGENTUM NITRATUM.
Lond.
Nitrated Silver.

Take of
Silver, one ounce;
Diluted nitrous acid, four ounces.

Diſſolve the ſilver in the nitrous acid, in a glaſs veſſel, over a ſand-heat; then evaporate with an heat gently raiſed: afterwards melt the reſiduum in a crucible, that it may be poured into proper forms, carefully avoiding too great a heat.

SAL ARGENTI, vulgo CAUSTICUM LUNARE.
Edin.
Salt of Silver, commonly called *Lunar Cauſtic.*

Take of
Pureſt ſilver, beat into plates, and cut in pieces, four ounces;
Weak nitrous acid, eight ounces;
Pureſt water, four ounces.

Diſſolve the ſilver in a phial with a gentle heat, and evaporate the ſolution to dryneſs. Then put the maſs into a large crucible, and apply the heat, at firſt gently, but augment it by degrees till the maſs flows like oil; then pour it into iron moulds, previouſly heated, and greaſed with tallow.

These

These processes do not differ in any material particular. But the name of *argentum nitratum* is preferable to the more indefinite one of *sal argenti.*

Strong spirit of nitre will dissolve somewhat more than half its weight of pure silver; and the weaker of the aquæ fortes, formerly described, proportionally less, according to their quantity of pure nitrous acid. Sometimes this spirit contains a portion of the vitriolic, or marine acids; which, however minute, renders it unfit for dissolving this metal, and should therefore be carefully separated before the solution be attempted. The method which the refiners employ for examining the purity of their aquafortis, and purifying it if necessary, is to let fall into it a few drops of a perfect solution of silver already made: if the liquor remain clear, and grow not in the least turbid or whitish, it is fit for use; otherwise, they add a small quantity more of the solution, which immediately turns the whole of a milky white colour; the mixture being then suffered to rest for some time, deposites a white sediment; from which it is warily decanted, examined afresh, and, if need be, farther purified by a fresh addition of the solution.

The silver beat into thin plates, as directed in the second of the above processes, needs not be cut in pieces: the solution will go on the more speedily, if they are only turned round into spiral circumvolutions, so as to be conveniently got into the glass, with care that the several surfaces do not touch each other. By this management, a greater extent of the surface is exposed to the action of the menstruum, than when the plates are cut in pieces and laid above each other. Good aquafortis will dissolve about half its weight of silver; and it is not advisable to use a greater quantity of the menstruum than is sufficient for effecting the solution, for all the surplus must be evaporated in the subsequent fusion.

It is necessary to employ very pure water; for if hard water were used in this process, the nitrous acid would forsake a part of the silver to join with the calcareous earth of the imperfect nitrous selenite; whereby a part of the silver would be precipitated.

The crucible ought to be large enough to hold five or six times the quantity of the dry matter; for it bubbles and swells up greatly, and is consequently apt to run over. During this time, also, little drops are now and then spirted up, whose causticity is increased by their heat, against which the operator ought therefore to be on his guard. The fire must be kept moderate till this ebullition ceases, and till the matter becomes consistent in the heat that made it boil before: then quickly increase the fire till the matter flows thin at the bottom like oil, when it is to be immediately poured into the mould, without waiting till the fumes cease to appear; for when this happens, the preparation proves not only too thick to run freely into the mould, but likewise less corrosive than it is expected to be.

For want of a proper iron mould, one may be formed of tempered tobacco-pipe clay, not too moist, by making in a lump of it, with a smooth stick first greased, as many holes as there is occasion for: pour the liquid matter into these cavities, and when congealed take it out by breaking the mould. Each piece is to be wiped clean from the grease, and wrapt up in soft dry paper, not only to keep the air from acting on them, but likewise to prevent their cor-

corroding or diſcolouring the fingers in handling.

This preparation is a ſtrong cauſtic; and is frequently employed as ſuch, for conſuming warts and other fleſhy excreſcences, keeping down fungous fleſh in wounds or ulcers, and other ſimilar uſes. It is rarely applied where a deep eſchar is required, as in the laying open of impoſthumations and tumours; for the quantity neceſſary for theſe purpoſes, liquefying by the moiſture of the ſkin, ſpreads beyond the limits within which it is intended to operate.

PILULÆ LUNARES.
The lunar Pills.

Diſſolve pure ſilver in aquafortis, as in the foregoing proceſs; and after due evaporation, ſet the liquor aſide to cryſtallize. Let the cryſtals be again diſſolved in common water, and mixed with a ſolution of equal their weight of nitre. Evaporate this mixture to dryneſs, and continue the exſiccation with a gentle heat, keeping the matter conſtantly ſtirring till no more fumes ariſe.

Here it is neceſſary to continue the fire till the fumes entirely ceaſe, as more of the acid is required to be diſſipated than in the preceding proceſs. The preparation is, nevertheleſs, in taſte very ſharp, intenſely bitter and nauſeous: applied to ulcers, it acts as a cauſtic, but it is much milder than the foregoing, Boerhaave, Boyle, and others, commend it highly in hydropic caſes. The former aſſures us, that two grains of it made into a pill with crumb of bread and a little ſugar, and taken on an empty ſtomach (ſome warm water, ſweetened with honey, being drank immediately after), purge gently without griping, and bring away a large quantity of water, almoſt without the patient's perceiving it: that it kills worms, and cures many inveterate ulcerous diſorders. He nevertheleſs cautions againſt uſing it too freely, or in too large a doſe; and obſerves, that it always proves corroſive and weakening, eſpecially to the ſtomach.

CHAP. XII.

PREPARATA E FERRO.

PREPARATIONS OF IRON.

FERRUM AMMONIACALE.

Lond.

Ammoniacal Iron.

Take of
Iron filings, one pound;
Sal ammoniac, two pounds.
Mix, and sublime. What remains at the bottom of the vessel mix by rubbing together with the sublimed matter, and again sublime.

FLORES MARTIALES, vulgo ENS VENERIS.

Edinb.

Martial Flowers, commonly called *Ens Veneris.*

Take of
Colcothar of martial vitriol, washed and well dried,
Sal ammoniac, equal weights.
Having mixed them well, sublime.

THOUGH the mode of preparation directed by the two colleges is here different, yet the preparation is fundamentally the same: and it is perhaps difficult to say which mode of preparation is to be preferred as the easiest and best.

The name of *ens veneris* has by some been very improperly applied to this preparation, as it contains not a particle of copper. The proper *ens veneris* is prepared from the blue vitriol; but, as we shall soon see, is often not materially different from the *flores martiales.*

The success of this process depends principally on the fire being hastily raised, that the sal ammoniac may not sublime before the heat be sufficient to enable it to carry up a sufficient quantity of the iron. Hence glass vessels are not so proper as earthen or iron ones: for when the former are used, the fire cannot be raised quickly enough, without endangering the breaking of them. The most convenient vessel is an iron pot; to which may be luted an inverted earthen jar, having a small hole in its bottom to suffer the elastic vapours, which arise during the operation, to escape. It is of advantage to thoroughly mix the ingredients together, moisten them with a little water, and then gently dry them; and to repeat the pulverization, humectation, and exsiccation two or three times, or oftener. If this method be followed, the sal ammoniac may be increased to three times the quantity of the iron, or farther; and a single sublimation will often be sufficient to raise flowers of a very deep orange colour.

This preparation is supposed to be highly

highly aperient and attenuating; though no otherwise so than the rest of the chalybeates, or at most only by virtue of the saline matter joined to the iron. It has been found of service in hysterical and hypochondriacal cases, and in distempers proceeding from a laxity and weakness of the solids, as the rickets. It may be conveniently taken in the form of a bolus, from two or three grains to ten: it is nauseous in a liquid form (unless in spirituous tincture); and occasions pills to swell and crumble, except such as are made of the gums.

FERRI RUBIGO.

Lond.

Rust of Iron.

Take of

Iron filings, one pound.

Expose them to the air, often moistening them with water, until they be corroded into rust; then powder them in an iron mortar, and wash off with distilled water the very fine powder.

But the remainder, which can not by moderate rubbing be reduced into a powder capable of being easily washed off, must be moistened, exposed to the air for a longer time, and again powdered and washed as before. Let the washed powder be dried.

FERRI RUBIGO, vulgo FERRI LIMATURA PREPARATA.

Edinb.

Rust of Iron, commonly called *Prepared Iron-filings.*

Set purified filings of iron in a moist place, that they may turn to rust, which is to be ground into an impalpable powder.

The cleansing of iron filings by means of a magnet is very tedious, and does not answer so well as might be expected; for if they be rusty, they will not be attracted by it, or not sufficiently: nor will they by this means be entirely freed from brass, copper, or other metallic substances which may adhere to them. It appears from the experiments of Henckel, that if iron be mixed by fusion with even its own weight of any of the other metals, regulus of antimony alone excepted, the compound will be vigorously attracted by the loadstone.—The rust of iron is to be procured at a moderate rate from the dealers in iron, free from any impurities, except such as may be washed off by water.

The rust of iron is preferable as a medicine to the calces, or croci, made by a strong fire. Hoffman relates, that he has frequently given it with remarkable success in obstinate chlorotic cases accompanied with excessive headachs and other violent symptoms; and that he usually joined with it pimpinella, arum root, and salt of tartar, with a little cinnamon and sugar. The dose is from four or five grains to twenty or thirty. Some have gone as far as a dram: But all the preparations of this metal answer best in small doses, which should rather be often repeated than enlarged.

FERRUM TARTARISATUM.

Lond.

Tartarized Iron.

Take of

Filings of iron, one pound.

Powdered crystals of tartar, two pounds.

Mix them with distilled water into a thick paste. Expose it to the air in an open earthen vessel for eight days; then grind the mat- the dried in a bath of sand, to a very fine powder.

This

This is an useful preparation of iron, in which that metal is chiefly brought to a saline state by means of the cream of tartar. It has now for the first time a place in the London pharmacopœia; but it had before been introduced into some of the foreign ones, particularly the Pharmacopœia Genevensis, under the title of *mars tartarisatus*; and indeed it is almost precisely the same with the *mars solubilis* of the old editions of the Edinburgh pharmacopœia.

FERRUM VITRIOLATUM.

Lond.

Vitriolated Iron.

Take of

Filings of iron,

Vitriolic acid, each eight ounces;

Distilled water, three pints.

Mix them in a glass vessel; and, when the effervescence has ceased, place the mixture for some time upon hot sand; then pour off the liquor, straining it through paper; and, after due exhalation, set it aside to crystallize.

VITRIOLUM MARTIS, seu SAL CHALYBIS.

Edinb.

Vitriol of Iron, or Salt of Steel.

Take of

Purified filings of iron, six ounces;

Vitriolic acid, eight ounces;

Water, two pounds and a half.

Mix them, and when the effervescence ceases, let the mixture stand for some time upon warm sand; then strain the liquor through paper, and after due evaporation set it aside to crystallize.

During the dissolution of the iron an elastic vapour rises, which on the approach of flame catches fire and explodes, so as sometimes to burst the vessel. To this particular therefore the operator ought to have due regard.

This vapour is also noxious to animal life. It is the inflammable air of Dr Priestley.

The chemists are seldom at the trouble of preparing this salt according to the directions above given; but in its stead substitute common green vitriol, purified by solution in water, filtration, and crystallization. The only difference between the two is, that the common vitriol contains somewhat more metal in proportion to the acid: and hence in keeping, its green colour is much sooner debased by a rusty browniſh cast. The superfluous quantity of metal may be easily separated, by suffering the solution of the vitriol to stand for some time in a cold place, when a browniſh yellow ochery sediment will fall to the bottom; or it may be perfectly dissolved, and kept suspended by a suitable addition of oil of vitriol. If the vitriol be suspected to contain any cupreous matter, which the common Engliſh vitriol seldom does, tho' most all the foreign vitriols do, the addition of some bright iron wire to the solution will both discover, and effectually separate, that metal: for the acid quits the copper to dissolve a proportional quantity of the iron; and the copper, in its separation from the acid, adheres to the undissolved iron, and forms a skin of a true copper colour on its surface. Even a vitriol of pure copper may, on this principle, be converted into a pure vitriol of iron.

But though the vitriolic acid appears in this operation to have so much stronger a disposition to unite with iron than with copper, that it totally rejects the latter when the former presented to it; the ope-

operator may nevertheless, give a dangerous impregnation of copper to the purest and most saturated solution of iron in the vitiolic acid, by the use of copper vessels. If the martial solution be boiled in a copper vessel, it never fails to dissolve a part of the copper, distinguishable by its giving a cupreous stain to a piece of bright iron immersed in it. By the addition of the iron, the copper is separated; by boiling it again without iron, more of the copper is dissolved; and this may in like manner be separated by adding more iron.

The salt of steel is one of the most efficacious preparations of this metal; and not unfrequently made use of in cachectic and chlorotic cases, for exciting the uterine purgations, strengthening the tone of the viscera, and destroying worms. It may be conveniently taken in a liquid form, largely diluted with water: Boerhaave directs it to be dissolved in an hundred times its weight of water, and the solution to be taken in the dose of twelve ounces on an empty stomach, walking gently after it. Thus managed, he says, it opens the body, proves diuretic, kills and expels worms, tinges the excrements black, or forms them into a matter like clay, strengthens the fibres, and thus cures many different distempers. The quantity of vitriol in the above dose of the solution, is fifty-seven grains and a half; but in common practice, such large doses of this strong chalybeate are never ventured on. Four or five grains, and in many cases half a grain, are sufficient for the intention in which chalybeate medicines are given. Very dilute solutions, as that of a grain of the salt in a pint of water, may be used as succedanea to the natural chalybeate waters, and will in many cases produce similar effects.

COLCOTHAR VITRIOLI.

Edinb.

Colcothar of Vitriol.

Let calcined vitriol be urged with a violent fire till it becomes of a very red colour.

In this preparation, the iron which had been brought to a saline state by means of the acid of vitriol, is again deprived of that acid by the action of fire. It may be considered therefore as differing in nothing from the residuum which remains in the retort, when vitriolic acid is distilled from martial vitriol. The colcothar is very rarely employed by itself for medical purposes; but it is used in the preparation of some other chalybeates, particularly the flores martialis, when prepared according to the method directed by the Edinburgh college.

ÆTHIOPS MARTIALIS.

Gen.

Martial Æthiops.

Take of

The rust of iron, as much as you please;

Olive oil, a sufficient quantity to make it into a paste.

Let this be distilled in a retort by a strong fire to dryness. Keep the residuum reduced to a fine powder in a close vessel.

An article under this name had formerly a place in some of the old pharmacopœias, and is described by Lemery in the Memoirs of the French Academy; but it was formed by a tedious process, continued for several months by the aid of water. Here the process is much shorter, and is supposed to give nearly

nearly the same product. Some have recommended it, on the supposition that the iron is here obtained in a very subtile state: but it is not in general supposed to have any advantage over the other more common chalybeates.

CROCUS MARTIS APERIENS ET ASTRINGENS.
Opening and astringent Crocus of Iron.

These are prepared by mixing iron filings with twice their weight of powdered sulphur, deflagrating in a red hot crucible; and in the one case keeping the preparation over the fire till it assumes a red colour; in the other, by reverberating it for a long time in the most extreme degree of heat.

Preparations under these names still retain a place in some of the foreign pharmacopœias, but they are variously prepared. They may however be considered as possessing the same medical powers: and although the preparations mentioned above probably differ from each other in their virtues, yet that difference is not of such a nature as is imported by the titles by which they are usually distinguished. For all the preparations of iron probably act by an astringent quality; and that which is above denominated the astringent crocus, has probably least effect in that way. At one period, these preparations were not unfrequently in use; and they were given in the form of bolus, electuary, or pill, from a few grains to a scruple; but among us they are at present so little in use, as to have no place in our pharmacopœias.

CHAP. XIII.

PRÆPARATA EX HYDRARGYRO.

PREPARATIONS OF MERCURY.

We have already treated of mercury at some length in the Materia Medica, and have there given a full view of the different mercurial preparations, reduced to the form of a table. From that table it is evident, that there is no article which has been employed for medical purposes in a greater variety of forms. The colleges of London and Edinburgh have admitted into their pharmacopœias only a few of these; but from the selection they have made, there is reason to believe that every useful purpose for which mercury has been employed may be answered; and these purposes are both numerous and considerable. For it is at least very generally allowed among intelligent

ligent practitioners, that there are few articles kept in the ſhops of our apothecaries which can be conſidered as ſo extenſively uſeful.

Mercury or quickſilver, in its crude ſtate, is a ponderous metallic fluid, totally volatile in a ſtrong fire, and calcinable by a weaker one (though very difficultly) into a red powdery ſubſtance. It diſſolves in the nitrous acid, is corroded by the vitriolic, but not acted on by the marine in its liquid ſtate: it nevertheleſs may be combined with this laſt ſkilfully applied in the form of fume. Quickſilver unites by trituration, with earthy, unctuous, reſinous, and other ſimilar ſubſtances, ſo as to loſe its fluidity: triturated with ſulphur, it forms a black maſs, which by ſublimation changes into a beautiful red one.

The general virtues of the mercurial preparations we have already endeavoured to ſtate under the article Hydrargyrus in the Materia Medica. Here it is ſufficient to obſerve, that while in certain circumſtances they act as ſtimulants, and even as corroſives, to the parts to which they are applied; under a different management, when introduced into the habit, they ſeem to forward circulation through even the ſmalleſt and moſt remote veſſels of the body; and may be ſo managed as to promote all the excretions. But while they thus operate as a powerful ſtimulus to the ſanguiferous, and probably alſo to the lymphatic ſyſtem, they ſeem to exert but little influence on the nervous ſyſtem. By this means they prove eminently ſerviceable in ſome inveterate chronical diſorders, proceeding from obſtinate obſtructions of the glands. Crude mercury has no effect this way. Reſolved into fume, or divided into minute particles, and prevented from re-uniting by the interpoſition of other ſubſtances, it operates very powerfully: unleſs the dividing body be ſulphur, which reſtrains its action. Combined with a ſmall quantity of the mineral acids, it acts effectually, though in general mildly; with a larger, it proves violently corroſive.

HYDRARGYRUS PURIFICATUS.

Lond.

Purified Quickſilver.

Take of

Quickſilver,

Filings of iron, each four pounds.

Rub them together, and diſtil from an iron veſſel.

As in the diſtillation of quickſilver glaſs retorts are very liable to be broken, an iron one is here with propriety directed: and by the addition of the filings of iron, matters which might otherwiſe ariſe with the quickſilver will be more apt to be detained in the retort. But ſtill this happens ſo readily, even merely with that degree of heat which is neceſſary to elevate the mercury, that it is very doubtful whether much advantage be obtained from this proceſs; and accordingly it has now no place in the pharmacopœia of the Edinburgh college.

HYDRARGYRUS ACETATUS.

Lond.

Acetated Quickſilver.

Take of

Purified quickſilver, one pound;

Diluted nitrous acid, two pounds;

Water of kali, as much as is ſufficient.

Mix the quickſilver with the acid in a glaſs veſſel, and diſſolve it in a ſand-bath; then drop in by degrees the water of kali, that the calx

calx of quickſilver may be precipitated; waſh this calx with plenty of diſtilled water, and dry it with a gentle heat. Theſe things being done,

Take of

The calx of quickſilver, above deſcribed, one pound

Acetous acid, as much as is neceſſary to diſſolve the calx.

Mix them in a glaſs veſſel; and the ſolution being completed, ſtrain it through paper; then evaporate it till a pellicle appears, and ſet it aſide to cryſtallize.

Keep theſe cryſtals in a veſſel cloſe ſtopt.

Of all the ſaline preparations of mercury, it has long been the opinion of the beſt chemiſts, that thoſe in which it was brought to a ſaline form, by means of acetous acid, would be the mildeſt; and ſuch a preparation was conjectured to be the baſis of a celebrated pill, prepared and ſold by Mr Keyſer. It was however found to be a very difficult matter to imitate his pill, or to obtain a combination of mercury with the acetous acid: but not long ſince, the proceſs for preparing theſe pills was publiſhed by authority at Paris, after being purchaſed by the French king. The proceſs here deſcribed though in ſome particulars much leſs operoſe than that of Mr Keyſer, yet nearly approaches to it, and furniſhes us with the mildeſt of the ſaline mercurials.

HYDRARGYRUS CALCINANTUS.

Lond.

Calcined Quickſilver.

Take of

Purified quickſilver, one pound.

Expoſe the quickſilver, in a flat-bottomed glaſs cucurbit, to an heat of about 600 degrees in a ſand-bath, till it becomes a red powder.

This preparation may now be made in a ſhorter time than by the proceſs formerly directed in the London pharmacopœia, which in general required ſeveral months for the acceſs of air, without which calcination cannot be performed, was then very much excluded. Still, however, the proceſs is a tedious one, and might perhaps be improved. A veſſel might be ſo contrived, as to occaſion a continual flux of air over the ſurface of the mercury.

This preparation is highly eſteemed in venereal caſes, and ſuppoſed to be the moſt efficacious and certain of all the mercurials. It may be advantageouſly given in conjunction with opiates: a bolus or pill, containing from half a grain to two grains of this calx, and a quarter or half a grain or more of opium, with the addition of ſome warm aromatic ingredient, may be taken every night. Thus managed, it acts mildly, though powerfully, as an alterative and diaphoretic: given by itſelf in larger doſes, as four or five grains, it proves a rough emetic and cathartic.

PULVIS MERCURII CINEREUS.

Edinb.

Aſh-coloured powder of Mercury.

Take of

Quickſilver,

Weak nitrous acid, equal weights.

Mix them ſo as to diſſolve the quickſilver; dilute the ſolution with pure water, and add ſpirit of ſal ammoniac as much as is ſufficient to ſeparate the mercury perfectly from the acid; then waſh the powder in pure water, and dry it.

In this process the mercurial nitre is decomposed; the precipitate, therefore, is a calx of mercury, and the clear liquor a solution of nitrous ammoniac. From the great attraction which the nitrous acid has for phlogiston, or from its ready disposition to part with pure air, the precipitates of mercury, from its solution in this acid, are more completely in the state of a calx than those from any other menstruum. There are, however, several niceties to be observed in conducting this process. If we employ too small a proportion of acid, and assist the solution by heat, the solution will contain an excess of calx capable of being separated by the water; and the whole precipitate from such a solution would be of a white colour. If, on the other hand, we employ too large a proportion of acid, the mercury is then so far calcined as to be capable of being dissolved by the volatile alkali: and this might happen in proportion as the quantity should be superabundant to the neutralization of the acid. The use of the water is to dissolve the nitrous ammoniac as fast as it is formed, and thereby prevent it from falling down and mixing with the precipitate. It is necessary to employ the purest water. If such be used as contains a nitrous selenite, not only a part of the mercury may be precipitated by the base of the selenite, but this last might also be deposited by the succeeding addition of the alkali.

The pulvis mercurii cinereus has of late years been much celebrated for the cure of venereal affections. It was first proposed by Dr Saunders to be made by precipitating the mercury from calomel, as the best substitute for the tedious and expensive process of the *precipitatus per se*, and of the grey powder produced by triture with gum arabic. From the testimony of Dr Home, and several other practitioners, we have no doubt of its being a very valuable preparation of mercury. It may be given in a bolus or wafer, in the quantity of from one to six or seven grains: the dose being gradually increased according to its effects upon the person.

HYDRARGYRUS CUM CRETA.

Lond.

Quicksilver with Chalk.

Take of

Purified quicksilver, three ounces;
Powdered chalk, five ounces.

Rub them together until the globules disappear.

In this preparation, as well as the two former, we have also the mercury in a state of calx; but in place of being brought to that state by the aid of fire or of acids, what may here be considered as calcination is effected by triture.

This preparation had no place in the former editions of the London pharmacopœia. A preparation, nearly similar indeed, under the title of Mercurius Alkalisatus, in which crabs eyes were employed instead of chalk, had a place in the old editions of the Edinburgh pharmacopœia, but was rejected from the edition of 1744, and has never again been restored. One reason for rejecting it was its being liable to gross abuse in the preparation, by the addition of some intermedium, facilitating the union of mercury with the absorbent earth, but diminishing or altering its power. The present preparation is liable to the same objection. Some, however, are of opinion, that when duly prepared, it is an useful alterative. But there can be little doubt, that the absorbent earth, by destroying acid in the alimentary canal, wil

will diminish the activity of the mercurial calx.

HYDRARGYRUS MURIATUS.

Lond.

Muriated Quicksilver.

Take of
Purified quicksilver,
Vitriolic acid, each two pounds;
Dried sea-salt, three pounds and an half.

Mix the quicksilver with the acid, in a glass vessel, and boil in a sand-heat until the matter be dried. Mix it, when cold, with the sea-salt, in a glass vessel; then sublime in a glass cucurbit, with a heat gradually raised. Lastly, let the sublimed matter be separated from the scoriæ.

MERCURIUS SUBLIMATUS CORROSIVUS.

Edin.

Sublimate corrosive Mercury.

Take of
Quicksilver,
Weak nitrous acid, of each four ounces;
Calcined sea-salt,
Calcined vitriol, of each five ounces.

Dissolve the quicksilver in the nitrous acid, and evaporate the solution to a white and thoroughly dry mass: then add the sea-salt and vitriol. Having ground and mixed them well together, put the whole into a phial, one half of which they ought to fill; then sublime in sand, first with a gentle, but afterwards with an increased heat.

The sublimate prepared by either of these methods is the same, they both consist only of mercury and the acid of the sea-salt united together. In the process directed by the Edinburgh college, the materials being mixed and exposed to the fire, first the vitriol parts with its acid, which, dislodging those of the nitre and marine salt, takes their place. The marine acid, resolved into fume and assisted by the nitrous, dissolves the mercury, now also strongly heated. This acid, though it very difficultly acts on mercury, yet when thus once united with it, is more strongly retained thereby than any other acid. The nitrous spirit, therefore, having nothing to retain it (for its own basis and that of the sea-salt are both occupied by the vitriolic, and that which the vitriolic forsook to unite with these, is now scarcely combinable with it) arises; leaving the mercury and marine acid to sublime together when the heat shall be strong enough to elevate them. Some small portion of the marine spirit arises along with the nitrous: and hence this compound acid has been usually employed, instead of the *aquafortis composita*, to which it is similar, for making the red corrosive.

It appears, therefore, that the vitriol, and the bases of the nitre and sea-salt, are of no farther use in this process, than as convenient intermediums for facilitating the union of the mercury with the marine acids. They likewise serve to afford a support for the sublimate to rest upon, which thus assumes the form of a placenta or cake.

The process, however, now adopted by the London college is a better and more simple one. There the mercury, corroded by the vitriolic acid into a white mass, is mixed with about an equal quantity of sea-salt, and set to sublime; the vitriolic acid quits the mercury to unite with the basis of the sea-salt; and the acid of the sea-salt, now set at liberty, unites with the mercury, and sublimes with it into the compound required.

required. The discovery of this method is generally attributed to Boulduc: though it is found also in Kunckel's *Laboratorium Chymicum*. When the process is conducted in this way, the residuous matter is a pure Glauber's salt, and the sublimate is also free of ferruginous matter; a greater or less quantity of which is very generally carried up along with the mercury when vitriol of iron is employed. Boulduc's method has therefore the advantage in this, that the proportion of mercury in a given quantity of sublimate must be less liable to variation.

If the mercury be corroded by the nitrous acid instead of the vitriolic, the event will be the same; that acid equally quitting the mercury, and setting loose the marine; and the sublimate made by this method is the same with the foregoing; but as the quantity of fixt matter is smaller, it more difficultly assumes the form of a cake. It requires indeed some skill in the operator to give it this appearance when either process is followed. When large quantities are made, this form may be easily obtained, by placing the matrass no deeper in the sand than the surface of the matter contained in it; and removing a little of the sand from the sides of the glass, as soon as the flowers begin to appear in the neck; when the heat should likewise be somewhat lowered, and not at all raised during the whole process. The sublimation is known to be completed by the edges of the crystalline cake, which will form on the surface of the caput mortuum, appearing smooth and even, and a little removed from it.

Our apothecaries rarely, and few even of the chemists, attempt the making of this preparation themselves; greatest part of what is used among us comes from Venice and Holland. This foreign sublimate has been reported to be adulterated with arsenic. Some affirm that this dangerous fraud may be discovered by the sublimate turning black on being moistened with alkaline ley; which by others is denied. As this point seemed of some importance to be determined, sundry experiments have been made with this view, which prove the insufficiency of alkalies for discovering arsenic. Alkaline ley, poured into a solution of pure arsenic, and into a mixture of the two solutions in different proportions, produced no blackness in any: and though the pure sublimate, and the mixtures of it with arsenic, exhibited some differences in these trials, yet these differences were neither so constant, nor so strongly marked, as to be laid down universally for criteria of the presence or absence of arsenic: different specimens of sublimate, known to be pure, have been found to differ considerably in this respect; probably from their holding a little more or less mercury in proportion to the acid, or from their retaining some small portion of those acids which were employed in the preparation as intermedia.

Some chemists deny the practicability of this adulteration. There is a process common in books of chemistry, wherein sublimate and arsenic being mixed together, and set to sublime, do not arise in one mass, or yield any thing similar to the preparation here intended: the arsenic absorbs the acid of the sublimate, and is reduced thereby into a liquid or butyraceous consistence; while the mercury, thus freed from the acid, distils in its fluid form: if the quantity of arsenic be insufficient to decompound the whole of the sublimate, the remainder of the

the ſublimate concretes diſtinct from the arſenical butter. From whence they conclude, that arſenic and ſublimate cannot be united together into a cryſtalline cake, the form in which this preparation is brought to us.

The above experiment is not altogether deciſive; for though arſenic and ſulphur do not aſſume the required form by the common proceſs, it is poſſible they may by ſome other management. It will therefore be proper to point out means for the ſatisfaction of thoſe who may be deſirous of convincing themſelves of the genuineneſs of this important preparation. Let ſome of the ſublimate, powdered in a glaſs mortar, be well mixed with twice its weight of black flux, and a little filings or ſhavings of iron: put the mixture into a crucible capable of holding four or five times as much; give a gradual fire till the ebullition ceaſes, and then haſtily increaſe it to a white heat. If no fumes of a garlic ſmell can be perceived during the proceſs, and if the particles of iron retain their form without any of them being melted, we may be ſure that the mixture contained no arſenic.

SUBLIMATE is a moſt violent corroſive, ſoon corrupting and deſtroying all the parts of the body it touches. A ſolution of it in water, in the proportion of about a dram to a quart, is uſed for keeping down proud fleſh, and cleanſing foul ulcers; and a more dilute ſolution as a coſmetic, and for deſtroying cutaneous inſects. But a great deal of caution is requiſite even in theſe external uſes of it.

Some have nevertheleſs ventured to give it internally, in the doſe of one-tenth or one-eighth of a grain. Boerhaave relates, that if a grain of it be diſſolved in an ounce or more of water, and a dram of this ſolution, ſweetened with ſyrup of violets, be taken twice or thrice a-day, it will prove efficacious in many diſtempers thought incurable; but he particularly cautions us not to venture upon it, unleſs the method of managing it be well known.

Sublimate diſſolved in vinous ſpirit has of late been given internally in larger doſes; from a quarter of a grain to half a grain. This method of uſing it was brought into repute by Baron Van Swieten at Vienna, eſpecially for venereal maladies; and ſeveral trials of it have alſo been made in this kingdom with ſucceſs. Eight grains of the ſublimate are diſſolved in ſixteen ounces of rectified ſpirit of wine or proof-ſpirit; the rectified ſpirit diſſolves it more perfectly, and ſeems to make the medicine milder in its operation than the proof-ſpirit of the original preſcription of Van Swieten. Of this ſolution, from one to two ſpoonfuls, that is, from half an ounce to an ounce, are given twice a-day, and continued till all the ſymptoms are removed; obſerving to uſe a low diet, with plentiful dilution, otherwiſe the ſublimate is apt to purge, and gripe ſeverely. It generally purges more or leſs at the beginning, but afterwards ſeems to operate chiefly by urine and perſpiration.

Sublimate conſiſts of mercury united with a large quantity of marine acid. There are two general methods of deſtroying its corroſive quality, and rendering it mild; the one is, combining with it as much freſh mercury as the acid is capable of taking up; and the other, by ſeparating a part of the acid by means of alkaline ſalts, and earths. On the firſt principle, mercurius dulcis is formed; on the latter, white precipitate. But before entering on theſe, it is proper to give the following formula.

SO-

SOLUTIO MERCURII SUBLIMATI CORROSIVI.

Edinb.

Solution of corrosive sublimate Mercury.

Take of

Corrosive sublimate mercury, six grains.

Sal ammoniac, twelve grains.

Dissolve in a pound of distilled water.

If hard water be used for this purpose, the solution suffers a kind of decomposition from the nitrous selenite of the water.

The solution of corrosive sublimate in water is very much assisted by sal ammoniac. There was a practice some years ago, of mixing up this solution with wheat-flour into the consistence of pills for internal use; and the quantity of sublimate in each pill was easily ascertained.

This solution may also be used for washing venereal and other sores; but in many instances it will be found too acrid for that purpose, and will require to be weakened by the addition of a portion of water.

CALOMELAS.

Lond.

Calomel.

Take of

Muriated quicksilver, one pound;

Purified quicksilver, nine ounces.

Rub them together till the globules disappear, and then sublime the mass. In the same manner repeat the sublimation four times. Afterwards rub the matter into a very fine powder and wash it by pouring on boiling distilled water.

MERCURIUS DULCIS.

Edinb.

Sweet Mercury.

Take of

Corrosive mercury sublimate, reduced to a powder in a glass mortar, four ounces;

Pure quicksilver, three ounces and a half.

Mix them well together, by long trituration in a glass or marble mortar, until the quicksilver ceases to appear. Put the powder into an oblong phial, of such a size, that only one-third of it may be filled; and set the glass in sand, that the mass may sublime. After the sublimation break the the glass, and the red powder which is found in its bottom, with the whitish one that sticks about the neck, being thrown away, let the white mercury be sublimed again three or four times, and reduced to a very fine powder.

The trituration of corrosive sublimate with quicksilver is a very noxious operation: for it is almost impossible, by any care, to prevent the lighter particles of the former from rising so as to affect the operator's eyes and mouth. It is nevertheless of the utmost consequence, that the ingredients be perfectly united before the sublimation is begun. It is necessary to pulverize the sublimate before the mercury is added to it; but this may be safely performed, with a little caution; especially if during the pulverization the matter be now and then sprinkled with a little spirit of wine: this addition does not at all impede the union of the ingredients, or prejudise the sublimation: it will be convenient not to close the top of the subliming vessel with a cap of paper at first (as is usually practised,) but to defer this till the mixture begins

gins to ſublime, that the ſpirit may eſcape.

The rationale of this proceſs deſerves particular attention; and the more ſo, as a miſtaken theory herein has been productive of ſeveral errors with regard to the operation of mercurials in general. It is ſuppoſed, that the dulcification, as it is called, of the *mercurius corroſivus*, is owing to the ſpiculæ or ſharp points, on which its corroſiveneſs depends, being broken and worn off by the frequent ſublimations. If this opinion were juſt, the corroſive would become mild, without any addition, barely by repeating the ſublimation; but this is contrary to all experience. The abatement of the corroſive quality of the ſublimate is entirely owing to the combination of as much freſh mercury as is capable of being united with it; and by whatever means this combination be effected, the preparation will be ſufficiently dulcified. Triture and digeſtion promote the union of the two, while ſublimation tends rather to diſunite them. The prudent operator, therefore, will not be ſolicitous about ſeparating ſuch mercurial globules as appear diſtinct after the firſt ſublimation: he will endeavour rather to combine them with the reſt, by repeating the triture and digeſtion.

The college of Wirtemberg require their *mercurius dulcis* to be only twice ſublimed; and the Auguſtan but once; and Neumann propoſes making it directly by a ſingle ſublimation, from the ingredients of the corroſive ſublimate, by only taking the quickſilver in a larger proportion.

Mr Selle of of Berlin has lately propoſed a method of making mercurius dulcis nearly ſimilar to that of Neumann. He directs, that to four ounces of pure quickſilver there ſhould be added as much ſtrong vitriolic acid. Theſe are to be mixed over a ſtrong fire till they become a ſolid hard maſs. This maſs is to be triturated in a ſtone mortar with two ounces and an half of quickſilver and four ounces and an half of dried common ſalt. And by a ſingle, or at moſt two ſublimations, he aſſures us an excellent mercurius dulcis is obtained.

If the medicine made after either of theſe methods, ſhould prove in any degree acrid, water boiled on it for ſome time will diſſolve and ſeparate that part in which its acrimony conſiſts. The marks of the preparation being ſufficiently dulcified are, its being perfectly inſipid to the taſte, and indiſſoluble by long boiling in water. Whether the water, in which it has been boiled, has taken up any part of it, may be known by dropping into the liquor a ley of any fixt alkaline ſalt, or any volatile alkaline ſpirit: if the decoction has any mercurial impregnation, it will grow turbid on this addition: if otherwiſe, it will continue limpid. But here care muſt be taken not to be deceived by any extraneous ſaline matter in the water itſelf: moſt of the common ſpring waters turn milky on the addition of alkalies: and therefore, for experiments of this kind, diſtilled water or rain water ought to be uſed.

This name of *calomel*, though for a conſiderable time baniſhed from our beſt pharmacopœias, is again reſtored by the London college. But we cannot help thinking, that they might eaſily have invented a name better expreſſing the conſtituent parts and nature of the preparation.

Calomel, or mercurius dulcis, may be conſidered as one of the moſt uſeful of the mercurial preparations; and it may be eſtimated as holding an intermediate place between the hydrargyus acetatus, one of the mildeſt

mildeſt of the ſaline preparations and the hydrargyrus muriatus, or corroſive ſublimate, one of the moſt acrid of them.

HYDRARGYRUS MURIATUS MITIS.

Lond.

Mild muriated quickſilver.

Take of

Purified quickſilver,

Diluted nitrous acid, of each half a pound.

Mix in a glaſs veſſel, and ſet it aſide until the quickſilver be diſſolved. Let them boil, that the ſalt may be diſſolved. Pour out the boiling liquor into a glaſs veſſel, into which another boiling liquor has been put before, conſiſting of,

Sea ſalt; four ounces;

Diſtilled water, eight pints.

After a white powder has ſubſided to the bottom of the veſſel, let the liquor ſwimming at the top be poured off, and the remaining powder be waſhed till it becomes inſipid, with frequent affuſions of hot water; then dried on blotting paper with a gentle heat.

This preparation had a place in former editions of the London and Edinburgh pharmacopœias, under the name of *mercurius dulcis precipitatus*. But the proceſs as now given is ſomewhat altered, being that of Mr Scheele of Sweden, who has recommended this as an eaſy and expeditious method of preparing ſweet mercury or calomel.

It appears from ſeveral teſts, that this precipitate is equal in every reſpect to that prepared by the preceding proceſſes: it is leſs troubleſome and expenſive, and the operator is not expoſed to the noxious duſt ariſing from the triture of the quickſilver with the corroſive ſublimate, which neceſſarily happens by the common method. The powder is alſo finer than can be made from the common ſublimed ſweet mercury by any trituration whatever. The clear liquor ſtanding over the precipitate, is a ſolution of cubic or rhomboidal nitre.

Mercurius dulcis, which may be conſidered as preciſely the ſame with the calomelas and hydrargyrus muriatus mitis, appears to be one of the beſt and ſafeſt preparations of this mineral, when intended to act as a quick and general ſtimulant. Many of the more elaborate proceſſes are no other than attempts to produce from mercury ſuch a medicine as this really is. The doſe, recommended by ſome for raiſing a ſalivation, is ten or fifteen grains taken in the form of a bolus or pills, ever night or oftener, till the ptyaliſm begins. As an alterant and diaphoretic, it has been given in doſes of five or ſix grains; a purgative being occaſionally interpoſed, to prevent its affecting the mouth. It anſwers, however, much better when given in ſmaller quantities, as one, two, or three grains every morning and evening, in conjunction with ſuch ſubſtances as determine its action to the ſkin, as the extract or reſin of guaicum; the patient at the ſame time keeping warm, and drinking liberally of warm diluent liquors. By this method of managing it, obſtinate cutaneous and venereal diſtempers have been ſucceſsfully cured, without any remarkable increaſe of the ſenſible evacuations. it is ſometimes, however, difficult to meaſure its effects in this way; and it is ſo very apt to run off by the inteſtines, that we can ſeldom adminiſter it in ſuch a manner as to produce thoſe permanent effects which are often required, and which we are able to do by other preparations. It has been lately propoſed to rub the gums and inſide of the mouth with this preparation, as a ready and effectual method of producing ſalivation: this practice has been particularly

cularly recommended in the internal hydrocephalus, where it is exceedingly difficult to excite a salivation by other means. The advantages of this practice are not fully confirmed by experience; and when mercury is attended with advantage in hydrocephalus, this is not probably the consequence of any discharge under the form of salivation, but merely of the mercury being introduced into the system in an active state, and thus promoting absorption. And salivation, when it arises from the internal use of mercury, may be considered as the strongest test of this: But this is by no means the case when salivation arises from a topical action on the excretories of saliva.

HYDRARGYRUS NITRATUS RUBER.

Lond

Red nitrated Quicksilver.

Take of
Purified Quicksilver,
Nitrous acid, of each one pound.
Muriatic acid, one dram.

Mix in a glass vessel, and dissolve the quicksilver in a sand-bath; then raise the fire until the matter be formed into red crystals.

MERCURIUS CORROSIVUS RUBER, vulgo PRECIPITATUS RUBER.

Edinb.

Red corrosive, commonly called *Red precipitated Mercury.*

Take of
Quicksilver,
Weak nitrous acid, of each one pound.

Let the quicksilver be dissolved in the acid, and then let the solution be evaporated to a white dry mass. This being beat into a powder, must be put into a glass retort, and subjected to a fire gradually encreased, till a small quantity of it taken out in a glass spoon and allowed to cool, assumes the form of shining red squamæ. Let the vessel be then removed from the fire. During the process the matter must be carefully agitated by a glass rod, that it may be equally heated.

The marine acid in the menstruum, ordered in the first process, disposes the mercurial calx to assume the bright sparkling look admired in it; which, though perhaps no advantage to it as a medicine, ought nevertheless to be insisted on by the buyer as a mark of its goodness and strength. As soon as the matter has gained this appearance, it should be immediately removed from the fire, otherwise it will soon lose it again. The preparation of this red precipitate, as it is called, in perfection, is supposed by some to be a secret not known to our chemists; insomuch, that we are under the necessity of importing it from abroad. This reflection seems to be founded on misinformation: we sometimes indeed receive considerable quantities of it from Holland; but this depends on the ingredients being commonly cheaper there than with us, and not on any secret in the manner of the preparation.

This precipitate is, as its title imports, an escharotic, and with this intention is frequently employed by the surgeons with basilicum and other dressings, for consuming fungous flesh in ulcers, and the like purposes. It is subject to great uncertainty in point of strength; more or less of the acid exhaling, according to the degree and continuance of the fire. The best criterion of its strength, as already observed, is its brilliant appearance; which is also the mark of its genuineness: if mixed with minium, which it is sometimes said to be, the duller hue will

will discover the abuse. This admixture may be more certainly detected by means of fire: the mercurial part will totally evaporate, leaving the minium behind.

Some have ventured to give this medicine internally, in venereal, scrophulous, and other obstinate chronic disorders, in doses of two or three grains, or more. But certainly the milder mercurials, properly managed, are capable of answering all that can be expected from this; without occasioning violent anxieties, tormina of the bowels, and similar ill consequences, which the best management can scarcely prevent this corrosive preparation from sometimes inducing. The chemists have contrived sundry methods of correcting and rendering it milder, by divesting it of a portion of the acid; but to no very good purpose, as they either leave the medicine still too corrosive, or render it similar to others which are procurable at an easier rate.

CALX HYDRARGYRI ALBA.

Lond.

White Calx of Quicksilver.

Take of

Muriated quicksilver,

Sal ammoniac,

Water of kali, each half a pound.

Dissolve first the sal ammoniac, afterwards the muriated quicksilver in distilled water, and add the water of kali. Wash the precipitated powder until it becomes insipid.

MERCURIUS PRÆCIPITATUS ALBUS.

Edin.

White Precipitate of Mercury.

Dissolve corrosive sublimate mercury in a sufficient quantity of hot water, and gradually drop into the solution some spirit of sal ammoniac as long as any precipitation ensues. Wash the precipitated powder with several fresh quantities of warm water.

These preparations are used chiefly in ointments; with which intention their fine white colour is no small recommendation to them. For internal purposes they are rarely employed, nor is it at all wanted; they are nearly similar to mercurius dulcis, but less certain in their effects.

Though the processes directed by the London and Edinburgh colleges be here somewhat different, yet the preparations are ultimately the same. The process described by the Edinburgh college is the most simple; but is liable to some objections.

Corrosive sublimate, as we have already seen, consists of mercury united with a large portion of acid: it is there dulcified by adding as much fresh mercury as is sufficient to saturate all the acid; here, by separating all the acid that is not saturated. This last way seems an unfrugal one, on account not only of the loss of the acid, but of the volatile spirit necessary for absorbing it. The operator, may, however, if it should be thought worth while, recover the volatile salt from the liquor, by adding to it, after the precipitate has been separated, a proper quantity of potash, and distilling with a gentle heat, in the same manner as for the spirit or volatile salt of sal ammoniac; for a true sal ammoniac is regenerated, in the precipitation, from the union of the volatile spirit with the marine acid of the sublimate. It is by no means advisable to use the liquor itself as a solution of sal ammoniac, or to separate the sal ammoniac from it by evaporation and crystallization, as a part of the mercury might be retained, and communicate dangerous qualities: but the volatile salt separated by

diſtillation, may be uſed without fear of its containing any mercury; none of which will ariſe with the heat by which the volatile ſalts are diſtilled.

Fixt alkalies anſwer as effectually, for precipitating ſolutions of ſublimate, as the volatile; but the precipitate, obtained by means of the former, inſtead of being white, as with the latter, is generally of a reddiſh yellow or orange colour. If ſal ammoniac be diſſolved along with the ſublimate, the addition of fixt alkalies will, by extricating the volatile alkali of the ſal ammoniac, occaſion as white a precipitation as if the volatile ſalt had been previouſly ſeparated and employed in its pure ſtate: and this compendium is now allowed by the London college in the proceſs which they have adopted.

There the ſal ammoniac, beſides its uſe in the capital intention, to make a white precipitation, promotes the ſolution of the ſublimate; which, of itſelf, is difficultly, and ſcarcely at all totally, ſoluble by repeated boiling in water: for however ſkilfully it be prepared, ſome part of it will have an under-proportion of acid, and conſequently approach to the ſtate of mercurius dulcis. A good deal of care is requiſite in the precipitation; for if too large a quantity of the fixt alkaline ſolution be imprudently added, the precipitate will loſe the elegant white colour for which it is valued.

HYDRARGYRUS CUM SULPHURE.

Lond.

Quickſilver with Sulphur.

Take of

Purified quickſilver,

Flowers of ſulphur, each one pound.

Rub them together until the globules diſappear.

ÆTHIOPS MINERALIS.

Edinb.

Æthiops Mineral.

Take of

Quickſilver,

Flowers of ſulphur, each eqnal weights.

Grind them together in a glaſs or ſtone mortar, with a glaſs peſtle, till the mercurial globules totally diſappear.

An ethiops is made alſo with a double quantity of mercury.

We need hardly remark, that theſe preparations, though now differing in name, are in reality the ſame. Nor need we add, that the direction given by the Edinburgh college, of uſing a glaſs or ſtone mortar and peſtle, is neceſſary and proper.

The union of the mercury and ſulphur might be much facilitated by the aſſiſtance of a little warmth. Some are accuſtomed to make this preparation in a very expeditious manner, by melting the ſulphur in an iron ladle, then adding the quickſilver, and ſtirring them together till the mixture be completed. The ſmall degree of heat here ſufficient, cannot reaſonably be ſuppoſed to do any injury to ſubſtances which have already undergone much greater fires, not only in the extraction from their ores, but likewiſe in the purifications of them directed in the pharmacopœia. In the following proceſs, they are expoſed in conjunction to a ſtrong fire, without ſuſpicion of the compound receiving any ill quality from it. Thus much is certain, that the ingredients are more perfectly united by heat than by the degree of triture uſually beſtowed on them. From the ethiops prepared by triture, part of the mercury is apt to be ſqueezed out on making it into an electuary or pills; from

from that made by fire, no separation is observed to happen.

Ethiops mineral is one of the most inactive of the mercurial preparations. Some practitioners, however, have represented it as possessing extraordinary virtues; and most people imagine it a medicine of some efficacy. But what benefit is to be expected from it in the common doses of eight or ten grains, or a scruple, may be judged from hence, that it has been taken in doses of several drams, and continued for a considerable time, without producing any remarkable effect. Sulphur eminently abates the power of all the more active minerals, and seems to be at the same time restrained by them from operating in the body itself. Boerhaave, who is in general sufficiently liberal in the commendation of medicines, disapproves of the ethiops in very strong terms. "It cannot enter the absorbent "vessels, the lacteals, or lymphatics, "but passes directly through the "intestinal tube, where it may hap"pen to destroy worms, if it ope"rates luckily. They are deceived "who expect any other effects from "it; at least I myself could never "find them. I am afraid it is un"warily given, in such large quan"tities, to children and persons "of tender constitutions, as be"ing a foreign mass, unconquer"able by the body, the more to be "suspected, as it there continues "long sluggish and inactive. It "does not raise a salivation, because "it cannot come into the blood. "Who knows the effects of a sub"stance, which, so long as it re"mains compounded, seems no "more active than any ponder"ous insipid earth?" The ethiops, with a double proportion of mercury now received into our pharmacopœias, has a greater chance for operating as a mercurial; and probably the quantity of mercury might be still further increased to advantage.

HYDRARGYRUS SULPHURATUS RUBER.

Lond.

Red sulphurated Quicksilver.

Take of

Quicksilver purified, forty ounces;

Sulphur, eight ounces.

Mix the quicksilver with the melted sulphur; and if the mixture takes fire, extinguish it by covering the vessel; afterwards reduce the mass to powder, and sublime it.

It has been customary to order a larger quantity of sulphur than here directed; but smaller proportions answer better; for the less sulphur, the finer coloured is the cinnabar.

As soon as the mercury and sulphur begin to unite, a considerable explosion frequently happens, and the mixture is very apt to take fire, especially if the process be somewhat hastily conducted. This accident the operator will have previous notice of, from the matter swelling up, and growing suddenly consistent: as soon as this happens, the vessel must be immediately close covered.

During the sublimation, care must be had that the matter rise not into the neck of the vessel, so as to block up and burst the glass: to prevent this, a wide necked bolt head, or rather an oval earthen jar, coated, should be chosen for the subliming vessel. If the former be employed, it will be convenient to introduce at times an iron wire, somewhat heated, in order to be the better assured that the passage is not blocking up; the

the danger of which may be prevented by cautiously raising the vessel higher from the fire.

If the ingredients were pure, no feces will remain: in such cases, the sublimation may be known to be over, by introducing a wire as before, and feeling therewith the bottom of the vessel, which will then be perfectly smooth: if any roughness or inequalities are perceived, either the mixture was impure, or the sublimation is not completed: if the latter be the case, the wire will soon be covered over with the rising cinnabar.

The preparers of cinnabar in large quantity, employ earthen jars, which in shape pretty much resemble an egg. These are of different sizes, according to the quantity intended to be made at one sublimation, which sometimes amounts to two hundred weight. The jar is usually coated from the small end almost to the middle, to prevent its breaking by the vehemence or irregularity of the fire. The greater part, which is placed uppermost, not being received within the furnace, has no occasion for this defence. The whole secret with regard to this process, is the management of the fire, which should be so strong as to keep the matter continually subliming to the upper part of the jar, without coming out at its mouth, which is covered with an iron plate; care should also be taken to put into the subliming vessel only small quantities of the mixture at a time.

The principal use of cinnabar is as a pigment. It was formerly held in great esteem as a medicine in cutaneous foulnesses, gouty and rheumatic pains, epileptic cases, &c. but of late it has lost much of its reputation. It appears to be nearly similar to the ethiops already spoken of. Cartheuser relates, that having given cinnabar in large quantities to a dog, it produced no sensible effect, but was partly voided along with the feces unaltered, and partly found entire in the stomach and intestines on opening the animal. The celebrated Frederick Hoffman, after bestowing high encomiums on this preparation, as having, in many instances within his own knowledge, perfectly cured epilepsies and vertigoes from contusions of the head (where it is probable, however, that the cure did not so much depend on the cinnabar as on the spontaneous recovery of the parts from the external injury), observes, that the large repeated doses, necessary for having any effect, can be borne only where the first passages are strong; and that if the fibres of the stomach and intestines are lax and flaccid, the cinnabar, accumulated and concreting with the mucous matter of the parts, occasions great oppression; which seems to be an acknowledgment that the cinnabar is not subdued by the powers of digestion, and has no proper medicinal activity. There are indeed some instances of the daily use of cinnabar having brought on a salivation; perhaps from the cinnabar, used in those cases, having contained a less proportion of sulphur than the sorts commonly met with. The regulus of antimony, and even white arsenic, when combined with a certain quantity of common sulphur, seem to have their deleterious power destroyed: on separating more and more of the sulphur, they exert more and more of their proper virulence. It does not seem unreasonable to presume, that mercury may have its activity varied in the same manner; that when perfectly satiated with sulphur, it may be inert, and that when the quantity of sulphur is more and more lessened, the

the compound may have greater and greater degrees of the proper efficacy of mercurials.

Cinnabar is sometimes used in fumigations against venereal ulcers in the nose, mouth, and throat. Half a dram of it burnt, the fume being imbibed with the breath, has occasioned a violent salivation. This effect is by no means owing to the medicine as cinnabar: when set on fire, it is no longer a mixture of mercury and sulphur; but mercury resolved into fume, and blended in part with the volatile vitriolic acids in either of which circumstances this mineral, as we have already observed, has very powerful effects.

HYDRARGYRUS VITRIOLATUS.

Lond.

Vitriolated Quicksilver.

Take of

Quicksilver, purified,

Vitriolic acid, each one pound.

Mix in a glass vessel, and heat them by degrees, until they unite into a white mass, which is to be perfectly dried with a strong fire. This matter, on the affusion of a large quantity of hot distilled water, immediately becomes yellow, and falls to powder. Rub the powder carefully with this water in a glass mortar. After the powder has subsided, pour off the water; and, adding more distilled water several times, wash the matter till it become insipid.

MERCURIUS FLAVUS, vulgo TURPETHUM MINERALE.

Edinb.

Yellow mercury, commonly called Turbith mineral.

Take of

Quicksilver, four ounces;

Vitriolic acid, eight ounces.

Cautiously mix them together, and distil in a retort, placed in a sand-furnace, to dryness: the white calx, which is left at the bottom, being ground to powder, must be thrown into warm water. It immediately assumes a yellow colour, but must afterwards be purified by repeated ablutions.

The quantity of oil of vitriol, formerly directed, was double to that now employed by the Edinburgh college. The reduction made in this article greatly facilitates the process; and the proportions of the London college are perhaps preferable.

Boerhaave directs this preparation to be made in an open glass, slowly heated, and then placed immediately on burning coals; care being taken to avoid the fumes, which are extremely noxious. This method will succeed very well with a little address when the ingredients are in small quantity: but where the mixture is large, it is better to use a retort, placed in a sand-furnace, with a recipient, containing a small quantity of water, luted to it. Great care should be taken, when the oil of vitriol begins to bubble, that the heat be steadily kept up, without at all increasing it, till the ebullition ceases, when the fire should be augmented to the utmost degree, that as much as possible of the redundant acid may be expelled.

If the matter be but barely edulcated, it proves a caustic salt, which in the ablution with water will almost all dissolve, leaving only a little quantity of turbith: the more of the acid that has been dissipated, the less of the remaining mercury will dissolve, and consequently the yield of turbith will be greater; for expelling only such part of the acid as is not completely satiated with mercury, while water takes up all ways

ways, along with the acid, a proportional quantity of the mercury itself. Even when the matter has been ſtrongly calcined, a part will ſtill be ſoluble: this evidently appears on pouring into the waſhings a little ſolution of fixt alkaline ſalt, which will throw down a conſiderable quantity of yellow precipitate, greatly reſembling the turbith, except that it is leſs violent in operation.

From this experiment it appears, that the beſt method of edulcorating this powder is, by impregnating the water, intended to be uſed in its ablution, with a determined proportion of fixt alkaline ſalt: for by this means, the waſhed turbith will not only turn out greater in quantity, but, what is of more conſequence, will have an equal degree of ſtrength; a circumſtance which deſerves particularly to be conſidered, eſpecially in making ſuch preparations as, from an error in the proceſs, may prove too violently corroſive to be uſed with any tolerable degree of ſafety. It is neceſſary to employ warm water if we are anxious for a fine colour. If cold water be uſed, the precipitate will be white.

It is obſervable, that though the ſuperfluous acid be here abſorbed from the mercury by the alkaline ſalt: yet in ſome circumſtances this acid forſakes that ſalt to unite with mercury. If *tartarum vitriolatum*, or *kali vitriolatum*, as it is now called, which is a combination of vitriolic acid with fixt alkali, be diſſolved in water, and the ſolution added to a ſolution of mercury in a quafortis, the vitriolic acid will unite with the mercury, and form with it a turbith, which falls to the bottom; leaving only the alkali diſſolved in the aquafortis, and united with its acid into a regenerated nitre. On this principle depends the preparation deſcribed by Wilſon under the title of *An excellent precipitate of mercury*; which is no other than a true turbith, though not generally known to be ſuch. It is made by diſſolving four ounces of kali vitriolatum in ſixteen ounces of ſpirit of nitre; diſſolving in this compound liquor four ounces of mercury; abſtracting the menſtruum by a ſand-heat; and edulcorating with water the gold-coloured maſs which remains.

Turbith mineral is a ſtrong emetic, and with this intention operates the moſt powerfully of all the mercurials that can be ſafely given internally. Its action, however, is not confined to the primæ viæ; it will ſometimes excite a ſalivation, if a purgative be not taken ſoon after it. This medicine is uſed chiefly in virulent gonorrhœas, and other venereal caſes, where there is a great flux of humours to the parts. Its chief uſe at preſent is in ſwellings of the teſticle from a venereal affection; and it ſeems not only to act as a mercurial, but alſo, by the ſevere vomiting it occaſions, to perform the office of a diſcutient, by accelerating the motion of the blood in the parts affected. It is ſaid likewiſe to have been employed with ſucceſs, in robuſt conſtitutions, againſt leprous diſorders, and obſtinate glandular obſtructions: the doſe is from two grains to ſix or eight. It may be given in doſes of a grain or two as an alterative and diaphoretic, in the ſame manner as the *mercurius calcinatus* already ſpoken of. Dr Hope has found that the turbith mineral is the moſt convenient errhine he has had occaſion to employ.

This medicine was lately recommended as the moſt effectual preſervative againſt the hydrophobia. It has been alleged there are ſeveral examples of its preventing madneſs in dogs which had been bitten; and ſome

of

of its performing a cure after the madness was begun: from six or seven grains to a scruple may be given every day, or every second day, for a little time, and repeated at the two or three succeeding fulls and changes of the moon. Some few trials have likewise been made on human subjects bitten by mad dogs; and in these also the turbith, used either as an emetic or alterative, seemed to have good effects.

The washings of turbith mineral are used by some, externally, for the cure of the itch and other cutaneous foulnesses. In some cases mercurial lotions may be proper, but they are always to be used with great caution; this is by no means an eligible one, as being extremely unequal in point of strength; more or less of the mercury being dissolved, as has been observed above, according to the degree of calcination. The pharmacopœia of Paris directs a mercurial wash free from this inconvenience, under the title of *Aqua mercurialis*, or *Mercurius liquidus*. It is composed of one ounce of mercury, dissolved in a sufficient quantity of spirit of nitre, and diluted with thirty ounces of distilled water. In want of distilled water, rain water may be used; but of spring waters there are very few which will mix with the mercurial solution, without growing turbid and precipitating a part of the mercury.

SOLUTIO MERCURIALIS SIMPLEX.

Jos. Jac. Plenck.

Simple mercurial solution.

Take of

Purest quicksilver, one dram;
Gum arabic, two drams.

Beat them in a stone mortar, adding by little and little distilled water of fumitory, till the mercury thoroughly disappear in the mucilage.

Having beat and mixed them thoroughly, add by degrees, and at the same time rubbing the whole together,

Syrup of kermes, half an ounce;
Distilled water of fumitory, eight ounces.

This mixture was much celebrated by its author as an effectual preparation of mercury, unattended with the inconvenience of producing a salivation; and he imagined that this depended on a peculiar affinity existing between mercury and mucilage. Hence such a conjunction, the hydrargyrum gummosum, as it has been styled, has been the foundation of mixtures, pills, syrups, and several other formulæ, as may be seen from the table of mercurial preparations in the materia medica.

By a long continued triture, mercury seems to undergo a degree of calcination; at least its globular appearance is not to be discerned by the best microscope; its colour is converted into that of a greyish powder; and from the inactive substance in its globular form, it is now become one of the most powerful preparations of this metallic body. The use of the gum seems to be nothing more, than to afford the interposition of a viscid substance to keep the particles at a distance from each other, till the triture requisite to produce this change be performed. Dr Saunders has clearly proved, that no real solution takes place in this process, and that though a quantity of mercurial particles are still retained in the mixture after the globular parts have been deposited by dilution with water, yet that this suspended mercurial matter is only diffused in the liquor, and capable of being perfectly separated by filtration. That long triture is capable of effecting the above change on mer-

mercury, is fully evinced from the well-known experiment of Dr Boerhaave, in producing a kind of calcined mercury by expoſing quickſilver incloſed in a phial to the agitation produced by keeping the phial tied to a wind-mill for fourteen years. By incloſing a pound of quickſilver in an iron box, with a quantity of iron nails and a ſmall quantity of water, by the addition of which a greater degree of inteſtine motion is given to the particles of the mercury, and fixing the box to the wheel of a carriage, Dr Saunders obtained, during a journey of four hundred miles, two ounces of a greyiſh powder, or calx of mercury.

On the above accounts we are not to aſcribe the effects of Plenck's ſolution to an intimate diviſion of the globules of mercury, nor to any affinity, nor elective attraction, between gum ſarabic and mercury; which laſt Mr Plenck has very unphiloſophically ſuppoſed. The ſame thing can be done by means of gum tragacanth, by honey, and by ſundry balſams. It is evidently owing to the converſion of the quickſilver to a calciform nature; but as this will be accompliſhed more or leſs completely, according to the different circumſtances during the triture, it is certainly preferable, inſtead of Plenck's ſolution, to diffuſe in mucilage, or other viſcid matters, a determinate quantity of the *Pulvis cinereus*, or other calx of mercury.

It is proper to take notice, that there is in many inſtances a real advantage in employing mucilaginous matters along with mercurials, theſe being found to prevent diarrhœa and ſalivation to a remarkable degree. So far, then, Mr Plenck's ſolution is a good preparation of mercury, though his chemical rationale is perhaps erroneous. The diſtilled water and ſyrup are of no conſequence to the preparation, either as facilitating the proceſs, or for medicinal uſe.

It is always moſt expeditious to triturate the mercury with the gum in the ſtate of mucilage. Dr Saunders found that the addition of honey was an excellent auxiliary; and the mucilage of gum tragacanth ſeems better ſuited for this purpoſe than gum arabic.

CHAP. XIV.

PRÆPARATA EX PLUMBO.

PREPARATIONS OF LEAD.

LEAD readily melts in the fire, and calcines into a dusky powder: which, if the flame is reverberated on it, becomes at first yellow, then red, and at length melts into a vitreous mass. This metal dissolves easily in the nitrous acid, difficultly in the vitriolic, and in small quantity in the vegetable acids; it is also soluble in expressed oil, especially when calcined.

Lead and its calces, while undissolved, have no considerable effects as medicines. Dissolved in oils, they are supposed to be (when externally applied) anti-inflammatory and deficcative. Combined with vegetable acids, they are remarkably so; and taken internally, prove a powerful though dangerous styptic.

There are two preparations of lead, *red* and *white lead*, as they are commonly called, which are much more extensively employed in other arts than in medicine, and of course they are prepared in large quantities. These formerly stood among the preparations in our pharmacopœias. But they are now referred to the materia medica. Accordingly we have already had occasion to make some observations with respect to them. But we shall here insert from the old editions of the Edinburgh pharmacopœia, the directions there given for preparing them.

MINIUM.

Red lead.

Let any quantity of lead be melted in an unglazed earthen vessel, and kept stirring with an iron spatula till it falls into powder, at first blackish, afterwards yellow, and at length of a deep red colour, in which last state it is called *minium*; taking care not to raise the fire so high as to run the calx into a vitreous mass.

THE preparation of red-lead is so troublesome and tedious, as scarce ever to be attempted by the apothecary or chemist; nor indeed is this commodity expected to be made by them, the preparation of it being a distinct branch of business. The makers melt large quantities of lead at once, upon the bottom of a reverberatory furnace built for this purpose, and so contrived, that the flame acts on a large surface of the metal, which is continually changed by means of iron rakes drawn backwards and forwards, till the fluidity of the lead is destroyed; after which, the calx is only now and then turned. By barely stirring the calx, as above directed, in a vessel over the fire, it acquires no redness; the reverberation of flame on the surface being absolutely necessary for this effect. It is said, that twenty pounds of lead gain, in this process, five pounds; and that the calx, being reduced into lead again, is found one pound less than the original weight of the metal.

These calces are employed in external applications, for abating inflammations, cleansing and healing ulcers,

ulcers, and the like. Their effects, however, are not very considerable; nor are they perhaps of much farther real use, than as they give consistence to the plaster, unguent, &c.

CERUSSA.

Ceruſſe, or white lead.

Put some vinegar into the bottom of an earthen vessel, and suspend over the vinegar very thin plates of lead, in such a manner that the vapour which arises from the acid may circulate about the plates. Set the containing vessel in the heat of horse-dung for three weeks; if at the end of this time the plates be not totally calcined, scrape off the white powder, and expose them again to the steam of vinegar, till all the lead be thus corroded into powder.

The making of white lead is also become a trade by itself, and confined to a few persons, who have large conveniencies for this purpose. The general method which they follow, is nearly the same with that above described. See the Philosophical Transactions, N° 137.

In this preparation, the lead is so far opened by the acid, as to discover, when taken internally, the malignant quality of the metal; and to prove externally, when sprinkled on running sores, or ulcers, moderately cooling, drying, and astrictive.

CERUSSA ACETATA.

Lond.

Acetated ceruſſe.

Take of

Ceruſſe, one pound;

Distilled vinegar, one gallon and an half.

Boil the ceruſſe with the vinegar until the vinegar is saturated: then filter through paper; and, after proper evaporation, set it aside to crystallize.

SAL PLUMBI, vulgo SACCHARUM SATURNI.

Edinb.

Salt, commonly called *Sugar, of lead.*

Put any quantity of ceruſſe into a cucurbit, and pour upon it ten times its quantity of distilled vinegar. Let the mixture stand upon warm sand till the vinegar becomes sweet; when it is to be poured off, and fresh vinegar added as often as it comes off sweet. Then let all the vinegar be evaporated in a glass-vessel to the consistence of pretty thin honey, and set it aside in a cold place, that crystals may be formed, which are to be afterwards dried in the shade. The remaining liquor is again to be evaporated, that new crystals may be formed; the evaporation of the reſiduous liquor is to be repeated till no more crystals concrete.

Ceruſſe (especially that sort called *flake lead*, which is not, like the others, subject to adulteration) is much preferable either to minium or litharge, for making the sugar of lead: for the corrosion, which it has undergone from the steam of the vinegar, disposes it to dissolve more readily. It should be finely powdered before the vinegar be put to it; and during the digestion, or boiling, every now and then stirred up with a wooden spatula, to promote its dissolution, and prevent its concreting into a hard mass at the bottom. The strong acid obtained from the *caput mortuum* of vinegar may be employed for this purpose to better advantage than the weaker, though purer acid, above directed. If a small quantity of rectified spirit of wine be prudently added to the solution

lution as ſoon as it is duly exhaled, and the mixture ſuffered to grow cold by ſlow degrees, the ſugar will concrete into very large and tranſparent cryſtals, which are ſcarcely to be obtained by any other method.

If the cryſtals be dried in ſunſhine, they acquire a blackiſh or livid colour. This ſeems to happen from the abſorption of light and its converſion into phlogiſton. If it be owing to the eſcape of pure air, why are the rays of the ſun neceſſary to this diſcharge? On whatever principles we account for it, the fact is the ſame; that the cryſtals ſoon loſe their ſaline condition, and the lead gradully re-aſſumes its metallic form. From this property of lead readily abſorbing phlogiſton, or parting with pure air, a ſolution of the ſaccharum ſaturni becomes a very convenient ſympathetic ink; on the ſame grounds it is alſo uſed for a more important purpoſe. As lead communicates a ſweetneſs and aſtringency very ſimilar to the product of the vinous fermentation, a practice formerly prevailed among fraudulent dealers, of correcting the too great ſharpneſs of acid wines by adulterating them with this metal. The abuſe may be detected in two different ways: a piece of paper may be moiſtened with the liquor to be examined, and then expoſed to the vapours of liver of ſulphur: or moiſtened paper, will become of a livid colour, and this will happen tho two or three hundred leaves of a book were interpoſed between the paper and the vapours; by this method, then, we make a kind of ſympathetic ink. But the beſt way of making the teſt is, to drop a ſmall quantity of a ſolution of the liver of ſulphur into the ſuſpected liquor: if there be any lead preſent, this addition will inſtantly occaſion the precipitation of a livid or dark coloured cloud.

The ſugar of lead is much more efficacious than the foregoing preparations, in anſwering the ſeveral intentions to which they are applied. Some have ventured upon it internally, in doſes of a few grains, as a ſtyptic, in hæmorrhagies, profuſe colliquative ſweats, ſeminal fluxes, the fluor albus, &c. nor has it failed their expectations. It very powerfully reſtrains the diſcharge; but almoſt as certainly as it does this, it occaſions ſymptoms of another kind, often more dangerous than thoſe removed by it, and ſometimes fatal. Violent pains in the bowels or through the whole body, and obſtinate conſtipations, ſometimes immediately follow, eſpecially if the doſe has been conſiderable: cramps, tremors, and weakneſs of the nerves, generally, ſooner or later enſue.

Boerhaave is of opinion, that this preparation proves malignant only, as far as its acid happens to be *abſorbed* in the body; for in ſuch caſe, he ſays, "it returns again into ce-"ruſſe, which is violently poiſon-"ous." On this principle it would follow, that in habits where acidities abound, the ſugar of lead would be innocent. But this is far from being the caſe. Lead and its preparations act in the body only when they are *combined* with acid: ceruſſe poſſeſſes the qualities of the ſaccharum only in a low degree; and either of them freed from the acid, has little, if any, effect at all. For the ſame reaſons, the ſal plumbi is preferable to the pompous *extract* and *vegeto mineral water* of Goulard, in which the lead is much leſs perfectly combined in a ſaline ſtate. It is ſometimes convenient to aſſiſt the ſolution of the ſaccharum ſaturni in water, by adding a portion of vinegar.

negar. The effects of the external application of lead seems to differ from the strength of the solution. thus a very weak solution seems to diminish directly the action of the vessels, and is therefore more peculiarly proper in active inflammations, as of the eyes; whereas a strong solution operates as a direct stimulant, and is therefore more successful in passive ophthalmia.

AQUA LITHARGYRI ACETATI.

Lond.

Water of acetated Litharge.

Take of

Litharge, two pounds and four ounces;

Distilled vinegar, one gallon.

Mix, and boil to six pints, constantly stirring; then set it aside. After the feces have subsided, strain.

This preparation may be considered as nearly the same with the extract and vegeto-mineral water of Mr Goulard. And it is probably from the circumstances of his preparations having come into a common use, that the London college have given this article a place in their pharmacopœia. It may, however, be a matter of doubt whether it be really intitled to a place. For as we have already observed, every purpose to be answered by it may be better obtained from the employment of a solution of the cerussa acetata in simple water. The aqua lithargyri acetata is intended for external use only.

CHAP. XV.

PRÆPARATA E STANNO.

PREPARATIONS of TIN.

Tin easily melts in the fire, and calcines into a dusky powder; which, by a farther continuance of the heat becomes white. A mass of tin heated till it be just ready to melt, proves extremely brittle, so as to fall in pieces from a blow; and by dexterous agitation, into powder. Its proper menstruum is aqua regia; though the other mineral acids may also be made to dissolve it, and the vegetable ones in small quantity. It crystallizes with the vegetable and vitriolic acids; but with the others, deliquates.

The virtues of this metal are little known. It has been recommended as an antihysteric, antihectic, &c. At present, it is chiefly used as an anthelmintic.

STANNUM PULVERATUM.

Lond.

Powdered Tin.

Take

Take of
Tin, ſix pounds.
Melt it in an iron veſſel, and ſtir it with an iron rod until a powder floats on the ſurface. Take off the powder, and, when cold, paſs it through a ſieve.

This preparation may be conſidered as nearly the ſame with the calx Jovis, which had a place in the former editions of the Edinburgh pharmacopœia; but from the late editions the calx has been expunged, and the limatura, or pulvis ſtanni, has a place only in their liſt of the materia medica. But although ſeldom prepared by the apothecary himſelf, it is not unfrequently employed as a remedy againſt worms, particularly the flat kinds, which too often elude the force of other medicines. The general doſe is from a ſcruple to a dram; ſome confine it to a few grains. But Dr Alſton aſſures us, in the Edinburgh Eſſays, that its ſucceſs chiefly depends on its being given in much larger quantities: he directs an ounce of the powder on an empty ſtomach, mixed with four ounces of molaſſes; next day, half an ounce; and the day following, half an ounce more; after which, a cathartic is adminiſtered: he ſays the worms are uſually voided during the operation of the purge, but that pains of the ſtomach occaſioned by them are removed almoſt immmediately upon taking the firſt doſe of the tin.

This practice is ſometimes ſucceſsful in the expulſion of tænia, but by no means ſo frequently as Dr Alſton's obſervations would lead us to hope.

STANNI AMALGAMA.

Dan.

Amalgama of Tin.

Take of
Shavings of pure tin, two ounces;
Pure quickſilver, three drams.
Let them be rubbed to a powder in a ſtone mortar.

Some have imagined that tin thus acted on by mercury, is in a more active condition than when exhibited in the ſtate of powder: and accordingly it has been given in worm caſes. But as both are equally inſoluble in the animal fluids, this is not to be expected; and to obtain any peculiar properties which tin may poſſeſs to their full extent, it will probably be neceſſary to exhibit it in ſome ſaline ſtate.

CHAP. XVI.

PRÆPARATA E ZINCO ET CUPRO.

PREPARATIONS OF ZINC AND COPPER.

ZINCUM CALCINATUM.

Lond.

Calcined Zinc.

Take of

Zinc, broken into ſmall pieces, eight ounces.

Caſt the pieces of zinc, at ſeveral times, into an ignited, large, and deep, crucible, placed leaning, or half-upright, putting on it another crucible in ſuch a manner that the air may have free acceſs to the burning zinc.

Take out the calx as ſoon as it appears, and ſeparate its white and lighter part by a fine ſieve.

CALX ZINCI vulgo FLORES ZINCI.

Edin.

Flowers of Zinc.

Let a large crucible be placed in a furnace, in an inclined ſituation, only half upright; when the bottom of the veſſel is moderately red, put a ſmall piece of zinc, about the weight of two drams, into it. The zinc ſoon flames and is at the ſame time converted into a ſpongy calx, which is to be raked from the ſurface of the metal with an iron ſpatula, that the combuſtion may proceed the more ſpeedily: when the zinc ceaſes to flame, take the calx out of the crucible. Having put in another piece of zinc, the operation may be repeated as often as you pleaſe. Laſtly, the calx is to be prepared like antimony.

These flowers, as uſed externally, are preferable for medicinal purpoſes to tutty, and the more impure ſublimates of zinc, which are obtained in the braſs works; and likewiſe to calamine, the natural ore of this metal, which contains a large quantity of earth, and frequently a portion of heterogeneous metallic matter. But beſides being applied externally, they have alſo of late been uſed internally. The flowers of zinc, in doſes from one to ſeven or eight grains, have been much celebrated of late years in the cure of epilepſy and ſeveral ſpaſmodic affections: and there are ſufficient teſtimonies of their good effects, where tonic remedies in thoſe affections are proper.

VITRIOLUM ALBUM.

Edin.

White Vitriol.

Take

Take of
Zinc, cut into small pieces, three ounces;
Vitriolic acid, five ounces;
Water, twenty ounces.
Having mixed the acid and water, add the zinc, and when the ebullition is finished strain the liquor; then after proper evaporation set it apart in a cold place, that it may shoot into crystals.

This salt is an elegant white vitriol. It differs from the common white vitriol, and the sal vitrioli of the shops, only in being purer, and perfectly free from any admixture of copper, or such other foreign metallic bodies as the others generally contain.

ZINCUM VITRIOLATUM PURIFICATUM.

Lond.

Purified vitriolated Zinc.

Take of
White vitriol, one pound;
Vitriolic acid, one dram;
Boiling distilled water, three pints.
Mix, and filter through paper.
After a proper evaporation, set it aside in a cold place to crystallize.

Although the Edinburgh college have given a formula for the preparations of white vitriol, yet their direction is very rarely followed by any of the apothecaries or chemists, who in general purchase it as obtained from the Goslar mines. When, however, it is got in this way, it is often a very impure salt, and requires that purification which is here directed, and which is by no means necessary for the white vitriol artificially prepared, in the manner above directed. But by this process, the ordinary white vitriol, in its common state of impurity, will be freed from those impregnations of earthy and other matters which it often contains. And in this purified state it answers many useful purposes, not only externally but internally; and particularly in doses from ten grains to half a dram, it operates almost instantly as an emetic, and is at the same time perfectly safe. By employing it internally, in smaller doses, we may obtain, and perhaps even more effectually, all the tonic power of the zinc; and some think it in every case preferable to the calx zinci.

CUPRUM AMMONIACUM.

Edin.

Ammoniacal Copper.

Take of
Blue vitriol, two parts;
Volatile sal ammoniac, three parts;
Rub them together in a glass mortar, until they unite, after the effervescence ceases, into a uniform violet-coloured mass, which must be first dried on blotting paper, and afterwards by a gentle heat. The product must be kept in a glass phial, well closed with a glass stopper.

This preparation has been thought serviceable in epilepsies; but from its frequent want of success, and the disagreeable consequences with which its use is sometimes attended, it has not lately been much prescribed. It is employed by beginning with doses of half a grain, twice a day, and increasing them gradually to as much as the stomach will bear. Dr Cullen sometimes increased the dose to five grains

CHAP. XVII.

AQUÆ DISTILLATÆ.

London.

AQUÆ STILLATITIÆ SIMPLICES.

Edinburgh.

SIMPLE DISTILLED WATERS.

THE effluvia which exhale into the air from many vegetables, particularly from thoſe of the odorous kind, conſiſt apparently of principles of great ſubtilty and activity, capable of ſtrongly and ſuddenly affecting the brain and nervous ſyſtem, eſpecially in thoſe whoſe nerves are of great ſenſibility; and likewiſe of operating in a ſlower manner, on the ſyſtem of the groſſer veſſels. Thus Boerhaave obſerves, that in hyſterical and hypochondriacal perſons, the fragrant odour of the Indian hyacinth excites ſpaſms, which the ſtrong ſcent of rue relieves: that the effluvia of the walnut-tree occaſion headachs, and make the body coſtive; that thoſe of poppies procure ſleep; and that the ſmell of bean bloſſoms, long continued, diſorders the ſenſes. Lemery relates, from his own knowledge, that ſeveral perſons were purged by ſtaying long in a room where damaſk roſes were drying.

Some of the chemiſts have indulged themſelves in the pleaſing ſurvey of theſe preſiding ſpirits, as they are called, of vegetables; their peculiar nature in the different ſpecies of plants; their exhalation into the atmoſphere by the ſun's heat, and diſperſion by winds; their rendering the air of particular places medicinal, or otherwiſe, according to the nature of the plants that abound. They have contrived alſo different means for collecting theſe fugitive emanations, and concentrating and condenſing them into a liquid form; employing either the native moiſture of the ſubject, or an addition of water, as a vehicle or matrix for retaining them.

THE proceſs which has been judged moſt analogous to that of nature, is the following. The ſubject freſh gathered at the ſeaſon of its greateſt vigour, with the morning dew on it, is laid lightly and unbruiſed in a ſhallow veſſel, to which is adapted a low head with a recipient; under the veſſel a live coal is placed, and occaſionally renewed, ſo as to keep up an uniform heat, no greater than that which obtains in

the atmosphere in summer, viz. about 85 degrees of Farenheit's thermometer. In this degree of heat there arises, exceeding slowly, an invisible vapour, which condenses in the head into dewy drops, and falls down into the receiver; and which has been supposed to be the very substance that the plant would have spontaneously emitted in the open air.

But on submitting many kinds of odoriferous vegetables to this process, the liquors obtained by it have been found to be very different from the natural effluvia of the respective subjects: they have had very little smell, and no remarkable taste. It appeared that a heat, equal to that of the atmosphere, is incapable of raising in close vessels, those parts of vegetables which they emit in the open air. It may therefore be presumed, that in this last case some other cause concurs to the effect: that it is not the sun's heat alone which raises and impregnates the air with the odorous principles of vegetables, but that the air itself, or the watery humidity with which it abounds, acting as a true solvent, extracts and imbibes them; so that the natural effluvia of a plant may be considered as an infusion of the plant made in air. The purgative virtue of the damask rose, and the astringency of the walnut-tree, which, as above observed, are in some degree communicated to the air, may be totally extracted by infusion both in watery and spirituous menstrua, but never rise in distillation with any degree of heat: and the volatile odours of aromatic herbs, which are diffused thro' the atmosphere in the lowest warmth, cannot be made to distil without a heat much greater than is ever found to obtain in a shaded air.

We apprehend, that the effluvia arising from growing vegetables, are chiefly exhaled by the living energy of the plant: the odorous matter is a real secretion, which cannot be performed independent of active vessels; and it is reasonable to allow the same powers for the exhalation of these effluvia, as for the transpiration of their watery parts.

The above process therefore, and the theory on which it is built, appear to be faulty in two points: 1. In supposing that all these principles, which naturally exhale from vegetables, may be collected by distillation; whereas there are many which the air extracts in virtue of its solvent power; some are also incapable of being collected in a visible and inelastic form; and some are artificially separable by solvents only: 2. In employing a degree of heat insufficient for separating even those parts which are truly exhalable by heat.

The foregoing method of distillation is commonly called *distillation by the cold still;* but those who have practised it, have generally employed a considerable heat. A shallow leaden vessel is filled with the fresh herbs, flowers, &c. which are heaped above it; so that when the head is fitted on, this also may be filled a considerable way. A little fire is made under the vessel, sufficient to make the bottom much hotter than the hand can bear, care being only taken not to heat it so far as to endanger scorching any part of the subject. If the bottom of the vessel be not made so hot as to have this effect on the part contiguous to it, it is not to be feared that the heat communicated to the rest of the included matter will so great as to do it any injury. By this management, the volatile parts of several odorous plants, as mint, are effectually forced over; and if the process has been skilfully managed,

ged, the distilled liquor proves richly impregnated with the native odour and flavour of the subject, without having received any kind of disagreeable impression from the heat used.

This process has been chiefly practised in private families; the slowness of the distillation, and the attendance and care necessary for preventing the scorching of some part of the plant, so as to communicate an ungrateful burnt flavour to the liquor, rendering it inconsistent with the dispatch requisite in the larger way of business.

Another method has therefore been had recourse to, viz. by the common still, called, in distinction from the foregoing, the *hot still*. Here a quantity of water is added to the plant to prevent its burning; and the liquor is kept nearly of a boiling heat, or made to boil fully, so that the vapour rises plentifully into the head, and passing thence into a spiral pipe or worm placed in a vessel of cold water, is there condensed, and runs out in drops quickly succeeding each other, or in a continued stream. The additional water does not at all weaken the produce; for the most volatile parts of the subject rise first, and impregnate the liquor that first distils: as soon as the plant has given over its virtue sufficiently, which is known by examining from time to time the liquor that runs from the nose of the worm, the distillation is to be stopped.

This is the method of distillation commonly practised for the officinal waters. It is accompanied with one imperfection, affecting chiefly those waters whose principal value consists in the delicacy of their flavour; this being not a little injured by the boiling heat usually employed, and by the agitation of the odorous particles of the subject with the water. Sometimes also a part of the plant sticks to the sides of the still, and is so far scorched as to give an ungrateful taint to the liquor.

There is another method of managing this operation, which has been recommended for the distillation of the more volatile essential oils, and which is equally applicable to that of the waters. In this way, the advantages of the foregoing methods are united, and their inconveniencies obviated. A quantity of water being poured into the still, and the herbs or flowers placed in a basket over it, there can be no possibility of burning; the water may be made to boil, but so as not to rise up into the basket, which would defeat the intention of this contrivance. The hot vapour of the water passing lightly through all the interstices of the subject matter, imbibes and carries over the volatile parts unaltered in their native flavour. By this means the distilled waters of all those substances whose oils are of the more volatile kind, are obtained in the utmost perfection, and with sufficient dispatch; for which last intention the still may be filled quite up to the head.

In the distillation of essential oils, the water, as was observed in the foregoing section, imbibes always a part of the oil. The distilled liquors here treated of, are no other than water thus impregnated with the essential oil of the subject; whatever smell, taste, or virtue, is here communicated to the water, or obtained in the form of a watery liquor, being found in a concentrated state in the oil. The essential oil, or some part of it, more attenuated and subtilized than the rest, is the direct principle on which the title of *spiritus rector*, or

or presiding spirit, has been bestowed.

All those vegetables therefore which contain an essential oil, will give over some virtue to water by distillation: but the degree of the impregnation of the water, or the quantity of water which a plant is capable of saturating with its virtue, are by no means in proportion to the quantity of its oil. The oil saturates only the water that comes over at the same time with it: if there be more oil than is sufficient for this saturation, the surplus separates, and concretes in its proper form, not miscible with the water that arises afterwards. Some odoriferous flowers, whose oil is in so small quantity, that scarcely any visible mark of it appears, unless fifty or an hundred pounds or more are distilled at once, give nevertheless as strong an impregnation to water as those plants which abound most with oil.

Many have been of opinion, that distilled waters may be more and more impregnated with the virtues of the subject, and their strength increased to any assigned degree, by *cohobation*, that is, by redistilling them a number of times from fresh parcels of the plant. Experience, however, shews the contrary; a water skilfully drawn in the first distillation, proves on every repeated one not stronger but more disagreeable. Aqueous liquors are not capable of imbibing above a certain quantity of the volatile oil of vegetables; and this they may be made to take up by one, as well as by any number of distillations: the oftener the process is repeated, the ungrateful impression which they generally receive from the fire, even at the first time, becomes greater and greater. Those plants, which do not yield at first waters sufficiently strong, are not proper subjects for this process, since their virtue may be obtained much more advantageously by others.

General rules for the Distillation *of the* Officinal Simple Waters.

I.

Where they are directed fresh, such only must be employed: but some are allowed to be used dry, as being easily procurable in this state at all times of the year, though rather more elegant waters might be obtained from them while green.

When fresh and juicy herbs are to be distilled, thrice their weight of water will be fully sufficient; but dry ones require a much larger quantity. In general, there should be so much water, that after all intended to be distilled has come over, there may be liquor enough left to prevent the matter from burning to the still.

Plants differ so much, according to the soil and season of which they are the produce, and likewise according to their own age, that it is impossible to fix the quantity of water to be drawn from a certain weight of them to any invariable standard. The distillation may always be continued as long as the liquor runs well flavoured off the subject, and no longer.

II.

The distillation may be performed in an alembic with a refrigeratory, the junctures being luted.

III.

If the herbs are of prime goodness, they must be taken in the weights prescribed: but when fresh ones are substituted for dry, or when the plants themselves are the produce

produce of unfavourable ſeaſons, and weaker than ordinary, the quantities are to be varied according to the diſcretion of the artiſt.

After the odorous water, alone intended for uſe, has come over, an acidulous liquor ariſes, which has ſometimes extracted ſo much from the copper head of the ſtill as to prove emetic. To this are owing the anthelmintic virtues attributed to certain diſtilled waters.

IV.

In a preceding edition of the Edinburgh pharmacopœia, ſome vegetables were ordered to be ſlightly fermented with the addition of yeſt, previouſly to the diſtillation.

The principle on which this management is founded, is certainly juſt; for the fermentation ſomewhat opens and unlocks their texture, ſo as to make them part with more in the ſubſequent diſtillation than could be drawn over from them without ſome aſſiſtance of this kind. Thoſe plants, however, which require this treatment, are not proper ſubjects for ſimple waters to be drawn from, their virtues being obtainable to better advantage by other proceſſes.

V.

If any drops of oil ſwim on the ſurface of the water, they are to be carefully taken off.

VI.

That the waters may keep the better, about a twentieth part their weight of proof-ſpirit may be added to each after they are diſtilled.

A great number of diſtilled waters were formerly kept in the ſhops, and are ſtill retained in foreign pharmacopœias. The Faculty of Paris direct, in the laſt edition of their *Codex Medicamentarius*, no leſs than one hundered and twenty-five different waters, and one hundred and thirty different ingredients in one ſingle water. Nearly one half of theſe preparations have ſcarcely any virtue or flavour from the ſubject, and many of the others are inſignificant.

The Colleges of London and Edinburgh have rejected theſe oſtentatious ſuperfluities, and given an elegant and compendious ſet of waters, ſufficient for anſwering ſuch purpoſes as theſe kinds of preparations are applied to in practice. Diſtilled waters are employed chiefly as grateful diluents, as ſuitable vehicles for medicines of greater efficacy, or for rendering diſguſtful ones more acceptable to the palate and ſtomach; few are depended on, with any intention of conſequence, by themſelves.

AQUA DISTILLATA.

Lond.

Diſtilled Water.

Take of

Spring-water, ten gallons.

Draw off by diſtillation, firſt, four pints; which being thrown away, draw off four gallons. This water is to be kept in a glaſs or earthen bottle with a glaſs ſtopper.

AQUA DISTILLATA.

Edin.

Diſtilled Water.

Let well or river water be diſtilled in very clean veſſels till about two thirds are drawn off.

Native water is ſeldom or never found pure, and generally contains earthy, ſaline, metallic, or other matters. Diſtillation is therefore employed as a means of freeing it from theſe heterogeneous parts. For

ſome

some pharmaceutical purposes distilled water is absolutely necessary: thus, if we employ hard undistilled water for dissolving sugar of lead, instead of a perfect solution, we produce a milky like cloud, owing to a real decomposition of parts.

Distilled water is now employed by the London college for a great variety of purposes; and there can be no doubt, that in many chemical and pharmaceutical processes, the employment of a heterogeneous fluid, in place of the pure element, may produce an essential alteration of qualities, or frustrate the intention in view. While the London college have made more use of distilled water than any other, their directions for preparing it seem to be the best. For as some impregnations may be more volatile than pure water, the water may be freed from them by throwing away what comes first over; and by keeping it afterwards in a close vessel, absorption from the air is prevented.

AQUA ANETHI.

Lond.

Dill-water.

Take of

Dill-seed, bruised, one pound;
Water, sufficient to prevent an empyreuma.

Draw off one gallon.

AQUA SEMINUM ANETHI SIMPLEX.

Edin.

Simple Dill-seed Water.

Take of

Dill-seeds, one pound;

Pour on as much water as when ten pounds have been drawn off by distillation, there may remain as much as is sufficient to prevent an empyreuma.

After proper maceration, let ten pounds be drawn off.

Although the dill-water holds a place, not only in the London and Edinburgh pharmacopœias, but also in most of the foreign ones; yet it is not much employed in practice. It obtains, indeed, a pretty strong impregnation from the seeds, and is sometimes employed as a carminative, particularly as the basis of mixtures and juleps; but it is less powerful and less agreeable than that of pepper-mint, cinnamon, and some others.

AQUA CINNAMOMI.

Lond. Ed.

Cinnamon-water.

Take of

Cinnamon, bruised, one pound;
Water, sufficient to prevent an empyreuma.

Macerate for twenty-four hours, and draw off one gallon.

From one pound of cinnamon the Edinburgh college direct ten pounds of water to be drawn off; and if the cinnamon employed be of good quality, it may yield that quantity with a strong impregnation; but what comes over first is unquestionably the strongest.

This is a very grateful and useful water, possessing in an eminent degree the fragrance and aromatic cordial virtues of the spice. Where real cinnamon-water is wanted, care should be had in the choice of the cinnamon, to avoid the too common imposition of cassia being substituted in its room. The two drugs may be easily distinguished from each other by the marks laid down under the respective articles in the Second Part of this work: but the essential oils of the two approach so near, that after distillation it is perhaps impossible to distinguish the waters; and it is still more doubtful how far the

the one is in any degree preferable to the other.

The oil of cinnamon is very ponderous, and arises more difficultly than that of any other of the vegetable matters from which simple waters are ordered to be drawn. This observation directs us, in the distillation of this water, to use a quick fire and a low vessel. For the same reason, the water does not keep so well as might be wished; the ponderous oil parting from it in time, and falling to the bottom, when the liquor loses its milky hue, its fragrant smell, and aromatic taste. Some recommend a small proportion of sugar to be added, in order to keep the oil united with the water.

AQUA CASSIÆ LIGNEÆ.

Edinb.

Cassia-water.

From a pound and a half of the cassia bark, ten pounds of water are directed to be drawn off in the same manner as the dill water.

This distilled water, as we have already observed, when properly prepared, approaches so near to that of cinnamon, that it is almost, if not altogether, impossible to distinguish the difference between the two. And although the London college has given it no place in their pharmacopœia, yet we may venture to assert, that it is no stranger to the shops of the apothecaries. Nay, is so great the difference of price, and the sensible qualities so nearly alike, that what is sold under the name of cinnamon water is almost entirely prepared from cassia alone; and not even prepared from the cassia bark, as directed by the Edinburgh college, but from the cassia buds, which may be had at a still cheaper rate, and which yield precisely the same essential oil, although in less quantity. When cassia water is prepared precisely according to the directions of the Edinburgh college, from containing a larger proportion of the subject, it has in general a stronger impregnation than their genuine cinnamon water, and is probably in no degree inferior in its virtues.

AQUA FÆNICULI.

Lond.

Fennel-water.

Take of

Sweet fennel-seeds, bruised, one pound;

Water sufficient to prevent an empyreuma.

Draw off one gallon.

The water of fennel-seeds is not unpleasant. A water has also been distilled from the leaves. When these are employed, they should be taken before the plant has run into flower; for after this time they are much weaker, and less agreeable. Some have observed, that the upper leaves and tops, before the flowers appear, yield a more elegant water, and a remarkably finer essential oil than the lower ones; and that the oil obtained from the one swims on water, while that of the other sinks. No part of the herb, however, is equal in flavour to the seeds.

AQUA MENTHÆ PIPERITIDIS.

Lond.

Peppermint-water.

Take of

Herb of peppermint, dried, one pound and an half;

Water, sufficient to prevent an empyreuma.

Draw off one gallon.

Edinb.

Edinb.

From three pounds of the leaves of peppermint, ten pounds of water are to be drawn off.

This is a very elegant and useful water; it has a warm pungent taste, exactly resembling that of the peppermint itself. A spoonful or two taken at a time, warm the stomach, and give great relief in cold, flatulent colics. Some have substituted a plain infusion of the dried leaves, of the plant, which is not greatly different in virtue from the distilled water.

In the distillation of this water, a considerable quantity of essential oil generally comes over in its pure state. And it is not uncommon to employ this for impregnating other water, with which it may be readily mixed by the aid of a little sugar.

AQUA MENTHÆ SATIVÆ.

Lond.

Spearmint water.

Take of

Spearmint, dried, one pound and an half;

Water, sufficient to prevent an empyreuma.

Draw off one gallon.

The Edinburgh college directs this water to be made in the same proportion as the preceding. But probably three pounds of the fresh herb will not give a stronger impregnation than a pound and a half of a dried: So that the water of the London college may be considered to be as strongly impregnated as that of the Edinburgh college

This water smells and tastes very strongly of the mint; and proves in many cases an useful stomachic. Boerhaave commends it (cohobated) as a pleasent and incomparable remedy for strengthening a weak stomach, and curing vomiting proceeding from cold viscous phlegm; and also in lienteries.

AQUA PIMENTO.

Lond. Edinb.

All-spice water.

Take of

All-spice bruised, half a pound.

Water sufficient to prevent an empyreuma.

Macerate for twenty-four hours, and draw off one gallon.

From half a pound of the pimento, the Edinburgh college directs ten pounds of water to be drawn off; so that the impregnation is there somewhat weaker, than the above.

This distilled water is a very elegant one, and has of late come pretty much into use; the hospitals employ it as a succedaneum to the more costly spice waters. It is, however, inferior in gratefulness to the spirituous water of the same spice hereafter directed.

AQUA PULEGII.

Lond Ed.

Pennyroyal-water.

Take of

Dried herb pennyroyal, one pound and an half;

Water, sufficient to prevent an empyreuma.

Draw off one gallon.

The pennyroyal water is directed to be prepared by the Edinburgh college in the same proportions as the mint and peppermint. Whether prepared from the recent or dried plant, it possesses in a considerable degree the smell, taste, and virtues, of the penny-royal. It is not unfrequently employed in hysterical cases, and sometimes with a good effect.

AQUA ROSÆ.

Lond. Edinb.

Rose Water.

Take of

Fresh petals of the damask rose, the white heels being cut off, six pounds;

Water, sufficient to prevent an empyreuma.

Draw off one gallon.

From the same quantity the Edinburgh college direct ten pounds to be drawn off.

This water is principally valued on account of its fine flavour, which approaches to that generally admired in the rose itself. The purgative virtue of the roses remains entire in the liquor left in the still, which has therefore been generally employed for making the solutive honey and syrup; instead of a decoction or infusion of fresh roses prepared on purpose: And this piece of frugality the college have now admitted. A distilled water of red roses has been sometimes called for in the shops, and supplied by that of damask roses, diluted with common water: this is a very venial substitution; for the water drawn from the red rose has no quality which that of the damask does not possess in a far superior degree; neither the purgative virtue of the one, nor the astringency of the other, arising in distillation.

AQUA CORTICIS MALORUM LIMONIORUM RECENTIUM.

Edin.

Lemon-peel Water.

From two pounds of recent lemon-peel ten pounds of water are to be drawn off by distillation.

AQUA CORTICIS AURANTIORUM HISPALENSIUM RECENTIUM.

Edinb.

Orange-peel Water.

From two pounds of orange-peel, ten pounds of water are directed to be drawn off.

Neither of these distilled waters are now to be met with in the London pharmacopœia; and it is probable that no great loss arises from the want of them. For both the one and the other contain only a very weak impregnation. They are chiefly employed as diluents in fevers and other disorders where the stomach and palate are very apt to be disgusted. And perhaps the only circumstance for which they are valuable is the slightness of the impregnation. For in such affections, any flavour, however agreeable at other times, often becomes highly disgustful to patients.

The distilled waters above noticed are the whole that have now a place in the pharmacopœias of the London and Edinburgh colleges. And perhaps this selection is sufficiently large for answering every useful purpose. But besides these, a considerable number of others are still retained even in the modern foreign pharmacopœias; some of which at least it may not be improper to mention.

AQUA ALEXITERIA.

Brun.

Alexiterial Water.

Take of

Elder flowers, moderately dried, three pounds;

Angelica leaves, fresh gathered, two pounds;

Spring water, forty pounds.

Draw off, by distillation, thirty pounds.

This water is sufficiently elegant with regard to taste and smell; tho' few expect from it such virtues as

its title seems to imply. It is used occasionally for vehicles of alexipharmac medicines, or in juleps to be drank after them, as coinciding with the intention; but in general, is not supposed to be itself of any considerable efficacy.

AQUA CAMPHORÆ.

Brun.

Camphor-water.

Take of

Camphor, an ounce and an half.

Let it be dissolved in half an ounce of the spirit of rosemary, then pour on it two pounds of spring water, and draw off by distillation a pound and an half.

This distilled water, which has no place in our pharmacopœias, is introduced into some of the foreign ones. And since camphor may be considered as a concrete essential oil, it naturally occurs as a form under which that medicine may be introduced with advantage in a diluted state.

AQUA CASTOREI.

Brun.

Castor Water.

Take of

Russia castor, one ounce;

Water, as much as will prevent burning.

Draw off two pints.

Castor yields almost all its flavour in distillation to water; but treated in the same manner with spirit of wine, gives over nothing. The spirit of castor formerly kept in the shops had none of the smell or virtues of the drug; while the water here directed proves, when fresh drawn, very strong of it.

It is remarkable, that the virtues of this animal-substance reside in a volatile oil, analogous to the essential oils of vegetables: some are reported to have obtained, in distilling large quantities of this drug, a small portion of oil, which smelt extremely strong of the castor, and diffused its ungrateful scent to a great distance.

This water is used in hysteric cases, and some nervous complaints, though it has not been found to answer what many people expect from it: it loses greatly of its flavour in keeping.

And it is probably from this circumstance that it has no place either in our pharmacopœias or in the modern foreign ones. But at the same time, as possessing in a high degree the sensible qualities of the castor, it may be considered as justly deserving future attention.

AQUA CEREFOLII.

Gen.

Chervil-water.

Take of

Fresh leaves of chervil, one pound;

Spring water, as much as is sufficient for allowing eight pounds to be drawn off by distillation, at the same time avoiding empyreuma.

Although the chervil be but little employed in Britain, yet among some of the foreigners it it is held in high esteem. And the distilled water is perhaps one of the most elegant forms under which its active parts can be introduced. But there is reason to believe, that those diuretic powers for which it has been chiefly celebrated, will be most certainly obtained from exhibiting it in substance, or under the form of the expressed juice of the recent plant.

A-

AQUA CERASI.

Suec.

Black-cherry Water.

Take of

Ripe black cherries bruiſed with the kernels, 20 pounds;

Pure water, as much as is ſufficient for avoiding empyreuma.

Draw off 20 pounds by diſtillation.

This water, although now baniſhed from our pharmacopœias, has long maintained a place in the foreign ones, and even in Britain it is not unfrequently to be met with in the ſhops. It has often been employed by phyſicians as a vehicle, in preference to the other diſtilled waters; and among nurſes who have the care of young children, has been the firſt remedy againſt the convulſive diſorders to which infants are ſo often ſubject.

This water has nevertheleſs of late been brought into diſrepute, and has been eſteemed poiſonous. They obſerve, that it receives its flavour principally from the cherry ſtones; and that theſe kernels, like many others, bear a reſemblance in taſte to the leaves of the lauro-ceraſus, which have been diſcovered to yield, by infuſion or diſtillation, the moſt ſudden poiſon known; ſome phyſicians of Worceſter have lately found, by trial purpoſely made, that a diſtilled water very ſtrongly impregnated with the flavour of the cherry kernels (no more than two pints being diſtilled from fourteen pounds of the cherry ſtones) proved in like manner poiſonous to brutes. The London college repeated the ſame experiment, and found the effects agreeable to thoſe gentlemen's report.

It by no means follows from theſe trials, nor after ſuch long experience can it be imagined, that black-cherry water, when no ſtronger than the ſhops have been accuſtomed to prepare it, is unſafe. Theſe kernels plainly reſemble opium, and ſome other things, which poiſon only when taken in too great a quantity; the water from the very laurel leaves is harmleſs when duly diluted; and even ſpirit of wine proves a poiſon of its kind not greatly different, if drank to a certain degree of exceſs. Nor can it be concluded, from the trials with the ſtrong black cherry water on dogs, &c. that even this will have the ſame effects in the human body; the kernels of many ſorts of fruits being in ſubſtance poiſonous to brutes, though innocent to man.

It is poſſible, however, that this water in any degree of ſtrength may not be altogether ſafe to the tender age of infants, where the principles of life are but juſt beginning as it were to move: it is poſſible, that it may there have had pernicious effects, without being ſuſpected: the ſymptoms it would produce, if it ſhould prove hurtful, being ſuch as children are often thrown into from the diſeaſe which it is imagined to relieve. On theſe conſiderations, both the London and Edinburgh colleges have choſen to lay it aſide; more eſpecially as it has been too often counterfeited with a water diſtilled from bitter almonds, which are known to communicate a poiſonous quality. It is, however, one of thoſe active articles which may perhaps be conſidered as deſerving farther attention.

AQUA CHAMOMELÆ FLORUM.

Dan.

Camomile-flower Water.

Take of

Camomile flowers, dried in the ſhade, eight pounds;

Wa-

Water, seventy-two pounds; draw off by gentle distillation forty-eight pounds.

CAMOMILE flowers were formerly ordered to be fermented previously to the distillation, a treatment which they do not need; for they give over without any fermentation as much as that process is capable of enabling them to do. In either case the smell and peculiar flavour of the flowers arise without any of the bitterness; this remaining behind in the decoction; which, if duly depurated and inspissated, yields an extract similar to that prepared from the flowers in the common manner. The distilled water has been used in flatulent colics, and the like, but is at present held in no great esteem.

AQUA FRAGORUM.

Suec.

Strawberry-water.

From twenty pounds of strawberries, twenty pounds of distilled water are drawn off, according to the same directions given for the preparation of the black-cherry water.

WATER thus impregnated with the essential oil of the strawberries, some people will think a very agreeable flavour; but any considerable medical power is not to be expected from it.

AQUA HYSSOPI.

Suec.

Hyssop-water.

From four pounds of the fresh leaves of hyssop, six pounds of water are drawn off.

HYSSOP water has been held by some in considerable esteem as an uterine and a pectoral medicine. It was directed in a former edition of the Edinburgh pharmacopœia for making up the black pectoral troches, but is now exchanged for common water. Few at present expect any singular virtues from it, nor is it often to be met with in our shops, being now expunged from our pharmacopœias. It holds a place, however, in most of the foreign ones, and among ourselves there are still some practitioners who frequently employ it. But there can be no doubt that those medical properties which the hyssop contains, may be more readily and effectually extracted by simple infusion.

AQUA LILIORUM ALBORUM.

Brun.

White-lily Water.

AQUA LILIORUM CONVALLIUM.

Brun.

Lily of the valey Water.

To any quantity of these flowers, four times their weight of water is to be added, and water drawn off by distillation in the proportion of two pounds to each pound of the flowers.

THESE waters must obtain some impregnation of that elegant essential oil, on which the odour of flowers in their growing state depends. But they do not possess any remarkable medical properties.

AQUA MELISSÆ.

Brun.

Balm-water.

The green leaves of the balm are to be macerated with double their weight of water; and from each pound of the plant a pound and an half of water is to be drawn off.

THIS

This water contains a considerable impregnation from the balm, which yields its essential oil pretty freely on distillation. Though now banished from our pharmacopœias it has still a place in most of the foreign ones. In the old editions of the Edinburgh pharmacopœia, this water was ordered to be cohobated, or re-distilled, from fresh quantities of the herb. This management seems to have been taken from Boerhaave, who has a very high opinion of the water thus prepared: he says, he has experienced in himself extraordinary effects from it, taken on an empty stomach; that it has scarce its equal in hypochondriacal and hysterical cases, the chlorosis, and palpitation of the heart, as often as those diseases proceed from a disorder of the spirits, rather than from any collection of morbific matter.

But whatever virtues are lodged in balm, they may be much more perfectly and advantageously extracted by cold infusion in aqueous or spirituous menstrua: in this last process, the liquor suffers no injury from being returned on fresh parcels of the herb; a few repetitions will load it with the virtues of the subject, and render it very rich. The impregnation here is almost unlimited; but in distilled waters it is far otherwise.

And as far as any advantage can be obtained from it, this may be had perhaps to its fullest extent by a simple distillation in the manner here directed.

AQUA RUTÆ.

Ross.

Rue-water.

From each pound of rue, with a sufficient quantity of spring water to prevent empyreuma, two pounds of distilled water are to be drawn.

Rue gives over in this process the whole of its smell, and great part of its pungency. The distilled water stands recommended in epileptic cases, the hysteric passion, for promoting perspiration, and other natural secretions. But though it is a good deal employed abroad, it is with us falling into disrepute.

AQUA SABINÆ.

Savin-water.

This is distilled from the fresh leaves of savin, after the same manner as the other already mentioned.

This water is by some held in considerable esteem for the same purposes as the distilled oil of savin. Boerhaave relates, that he has found it (when prepared by cohobation) to give an almost incredible motion to the whole nervous system; and that when properly used, it proves eminently serviceable for promoting the menses and the hæmorrhoidal flux.

It has now, however, fallen so much into disrepute as to have no place either in our pharmacopœias or in the best modern foreign ones: But at the same time, when we reflect how readily savin yields a large proportion of active essential oil on distillation, it may perhaps be considered as better intitled to attention than some other distilled waters which are still retained.

AQUA SAMBUCI.

Brun.

Elder-flower water.

This is distilled from fresh elder flowers, after the same manner as the white-lily water.

This water smells considerably of the flowers; but is rarely used among us.

AQUA

AQUA SALVIÆ.

Brun.

Sage-water.

This is directed to be prepared from the green leaves of the ſage in the ſame manner as the balm water.

SAGE leaves contain a conſiderable proportion of eſſential oil, which they yield pretty freely on diſtillation. But their whole medical properties may with ſtill greater eaſe and advantage be extracted by ſimple infuſion.

To the ſimple diſtilled waters the London college have annexed the following remarks.

We have ordered the waters to be diſtilled from the dried herbs, becauſe freſh are not ready at all times of the year. Whenever the freſh are uſed, the weights are to be increaſed. But, whether the freſh or dried herbs be employed, the operator may vary the weight according to the ſeaſon in which they have been produced and collected.

Herbs and ſeeds, kept beyond the ſpace of a year, are leſs proper for the diſtillation of waters.

To every gallon of theſe waters add five ounces, by meaſure, of proof-ſpirit.

CHAP. XVIII.

SPIRITUS DISTILLATI.

DISTILLED SPIRITS.

THE flavours and virtues of diſtilled waters are owing, as was obſerved in the preceding chapter, to their being impregnated with a portion of the eſſential oil of the ſubject from which they are drawn. Spirit of wine, conſidered as a vehicle for theſe oils, has this advantage above water, that it is their proper menſtruum, and keeps all the oil that riſes with it perfectly diſſolved into an uniform limpid liquor.

Nevertheleſs, many ſubſtances, which, on being diſtilled with water, impart to it their virtues in great perfection; if treated in the ſame manner with ſpirit of wine, ſcarcely give it any ſmell or taſte. This difference proceeds from hence, that ſpirit is not ſuſceptible of ſo great a degree of heat as water. Liquids in general, when made to boil, have received as great a heat as they are capable of ſuſtaining: now, if the extent of heat between freezing and boiling water, as meaſured by thermometers, be taken for a ſtandard, ſpirit of wine will be found to boil with leſs than four-fifths of that heat, or above one-fifth leſs than the heat of boiling

boiling water. It is obvious therefore, that substances may be volatile enough to rise with the heat of boiling water, but not with that of boiling spirit.

Thus, if cinnamon, for instance, be committed to distillation with a mixture of spirit of wine and water, or with a pure proof-spirit, which is no other than a mixture of about equal parts of the two; the spirit will rise first, clear, colourless, and transparent, and almost without any taste of the spice; but as soon as the more ponderous watery fluid begins to rise, the oil comes over freely with it, so as to render the liquor highly odorous, sapid, and of a milky hue.

The proof-spirits usually met with in the shops are accompanied with a degree of ill flavour; which, tho' concealed by means of certain additions, plainly discovers itself in distillation. This nauseous relish, does not begin to rise till after the purer spirituous part has come over; which is the very time that the virtues of the ingredients begin also most plentifully to distil; and hence the liquor receives an ungrateful taint. To this cause principally is owing the general complaint, that the cordials of the apothecary are less agreeable, than those of the same kind prepared by the distiller; the latter being extremely curious in rectifying or purifying the spirits (when designed for what he calls fine goods) from all ill flavour.

ALKOHOL.

Lond.

Ardent spirit.

Take of

Rectified spirit of wine, one gallon;

Kali, made hot, one pound and an half;

Pure kali, one ounce.

Mix the spirit of wine with the pure kali, and afterwards add one pound of the hot kali; shake them, and digest for twenty-four hours. Pour off the spirit, to which add the rest of the kali, and distil in a water bath. It is to be kept in a vessel well stopped.

The specific gravity of the alkohol is to that of distilled water as 815 to 1000.

We have already offered some observations on spirit of wine both in the state of what is called rectified and proof spirit. But in the present formula we have ardent spirit still more freed from an admixture of water than even the former of these. And in this state it is unquestionably best fitted for answering some purposes. It may therefore be justly considered as an omission in the present edition of the Edinburgh Pharmacopœia that they have no analogous form. In former editions of this work, alkohol was directed to be prepared from French brandy. But this is rather too dear an article in this country for distillation; nor is the spirit obtained from it any ways preferable to one procurable from cheaper liquors. The coarser inflammable spirits may be rendered perfectly pure, and fit for the nicest purposes, by the following method.

If the spirit be exceedingly foul, mix it with about an equal quantity of water, and distil with a slow fire; discontinuing the operation as soon as the liquor begins to run milky, and discovers, by its nauseous taste, that the impure and phlegmatic part is rising. By this treatment, the spirit leaves a considerable portion of its foul oily matter behind it in the water, which now appears milky and turbid and proves highly disagreeable to the taste.

If

If the spirit be not very foul at first, this ablution is not necessary; if extremely so, it will be needful to repeat it once, twice, or oftener.

As vinous sprits arise with a less degree of fire than watery liquors, we are hence directed to employ, in the distillation of them, a heat less than that in which water boils. and if due regard be had to this circumstance, very weak spirits may, by one or two wary distillations, be tolerably well freed from their aqueous phlegm; especially if the distilling vessels are of such a height, that the spirit, by the heat of a water-bath, may but just pass over them: in this case, the phlegmatic vapours which rise for a little way along with the spirit, will condense and fall back again before they can come to the head. Very pompous instruments have been contrived for this purpose, and carried in a spiral or serpentine form to an extraordinary height. The spirit, ascending through these, was to leave all the watery parts it contained, in its passage, and come over perfectly pure and free from phlegm. But these instruments are built upon erroneous principles, their extravagant height defeating the end it was designed to answer: if the liquor be made to boil, a considerable quantity of mere phlegm will come over along with the spirit; and if the heat be not raised to this pitch, neither phlegm nor spirit will distil. The most convenient instrument is the common still; between the body of which and its head an adopter or copper tube may be fixed.

The spirit being washed, as above directed, from its foul oil, and freed from the greatest part of the phlegm by gentle distillation in a water-bath; add to every gallon of it a pound or two of pure, dry, fixt alkaline salt. Upon digesting these together for a little time, the alkali, from its known property of attracting water and oils, will imbibe the remaining phlegm, and such part of the disagreeable unctuous matter as may still be left in the spirit, and will sink with them to the bottom of the vessel. If the spirit be now again gently drawn over, it will rise entirely free from its phlegm and nauseous flavour; but some particles of the alkaline salt are apt to be carried up with it, and give what the workmen call an urinous relish; this may be prevented by adding previous to the last distillation, a small proportion of calcined vitriol, alum, or sal catharticus amarus; the acid of these salts will unite with, and neutralize the alkali, and effectually prevent it from rising; while no more of the acid of the salts is extricated than what the alkali absorbs.

The spirit obtained by this means is extremely pure, limpid, perfectly flavourless, and fit for the finest purposes. It may be reduced to the strength commonly understood by proof, by mixing twenty ounces of it with seventeen ounces of water. The distilled cordials made with these spirits prove much more elegant and agreeable, than when the common rectified or proof-spirits of the shops are used

If the rectified spirit be distilled afresh from dry alkaline salt, with a quick fire, it brings over a considerable quantity of the salt; and in this state it is supposed to be a more powerful menstruum for certain substances than the pure spirit. This alkalized spirit is called TARTARIZED SPIRIT OF WINE.

The process here described, which was long since recommended by Dr Lewis, will sufficiently explain the intention of the London college, in the

the directions they have now given for the preparation of alkohol. And there can be no doubt, that by their process a very pure alkohol may be obtained. Of this we have a sufficient test in the specific gravity of the fluid which comes over, which is to that of distilled water only as 815 to 1000, while the specific gravity of proper rectified spirit, is as 835 to 1000.

SPIRITUS ÆTHERIS VITRIOLICI.

Lond.

Spirit of vitriolic Æther.

Take of
Rectified spirit of wine.
Vitriolic acid, each one pound
Pour by a little at a time the acid on the spirit, and mix them by shaking; then from a retort through a tubulated receiver, to which another recipient is fitted, distil the spirit of vitriolic æther till sulphureous vapours begin to rise.

ACIDUM VITRIOLICUM VINOSUM, vulgo SPIRITUS VITRIOLI DULCIS.

Edin.

Vinous vitriolic Acid, commonly called *Dulcified spirit of Vitriol.*

Take of
Vitriolic æthereal liquor, one part;
Rectified spirit of wine, two parts.
Mix them.

The last of these processes is a very ready and convenient method of preparing the dulcified spirit of vitriol, which only differs from æther by the acid being more predominant, and less intimately combined.

In the first process, a good deal of caution is requisite in mixing the two liquors. Some direct the spirit of wine to be put first into the retort, and the oil of vitriol to be poured upon it all at once; a method of procedure by no means adviseable, as a violent heat and ebullition always ensue, which not only dissipate a part of the mixture, but hazard also the breaking of the vessel, to the great danger of the operator. Others put the oil of vitriol into the retort first; then by means of a funnel, with a long pipe that may reach down just to the surface of the acid, pour in the spirit of wine; if this be done with sufficient caution, the vinous spirit spreads itself on the surface of the oil of vitriol, and the two liquors appear distinct. On standing for a week or two, the vinous spirit is gradually imbibed, without any commotion, and the vessel may then be safely shaken to complete the mixture: but if the spirit be poured in too hastily at first, or if the vessel be moved before the two liquors have in some degree incorporated, the same effect ensues as in the foregoing case. The only secure way is, to add the oil of vitriol to the spirit of wine by a little quantity at a time, waiting till the first addition be incorporated before another quantity is put in: by this management, the heat that ensues is inconsiderable, and the mixture is effected without any inconvenience.

The distillation should be performed with an equable and very gentle heat, and not continued so long as till a black froth begins to appear: for before this time, a liquor will arise of a very different nature from the spirits here intended. The several products are most commodiously kept apart by using a tubulated receiver, so placed, that its pipe may convey the matter which shall come over into a vial set underneath. The juncture of the re-

retort and recipient is to be luted with a paste made of lintseed meal, and further secured by a piece of wet bladder; the lower juncture may be closed only with some soft wax, that the vial may be occasionally removed with ease.

The true dulcified spirit arises in thin subtile vapours, which condense on the sides of the recipient in straight striæ. It is colourless as water, very volatile, inflammable, of an extremely fragrant smell, in taste somewhat aromatic.

After the fire has been kept up for some time, white fumes arise; which either form irregular striæ, or are collected into large round drops like oil: On the first appearance of these, the vial, or the receiver, if a common one is used must be taken away. If another be substituted, and the distillation continued, an acid liquor comes over, of an exceeding pungent smell, like the fumes of burning brimstone. At length a black froth begins hastily to arise, and prevents carrying the process further.

On the surface of the sulphureous spirit is found swimming a small quantity of oil, of a light yellow colour, a strong, penetrating, and very agreeable smell. This oil seems to be nearly of the same nature with the essential oils of vegetables. It readily and totally dissolves in rectified spirit of wine, and communicates to a large quantity of that menstruum the taste and smell of the aromatic or dulcified spirit.

The matter remaining after the distillation is of a dark blackish colour, and still highly acid. Treated with fresh spirit of wine, in the same manner as before, it yields the same production; till at length all the acid that remains unvolatilized being saturated with the inflammable oily matter of the spirit, the compound proves a bituminous sulphureous mass; which, exposed to the fire in open vessels, readily burns, leaving a considerable quantity of fixed ashes; but in close ones, it explodes with violence; with fixt alkaline salts, it forms a compound nearsimilar to one composed of alkalies and sulphur.

The new names adopted by the London and Edinburgh colleges for this fluid, are expressive of its composition, the one employing the term of *Spiritus ætheris vitriolici*, the other of *Acidum vitriolicum vinosum*: the old term of *Spiritus vitrioli dulcis* is less properly fitted to distinguish it from other fluids, and to convey a just idea of its nature.

Dulcified spirit of vitriol has been for some time greatly esteemed, both as a menstruum and a medicine. It dissolves some resinous and bituminous substances more readily than spirit of wine alone, and extracts elegant tinctures from sundry vegetables. As a medicine, it promotes perspiration and the urinary secretion, expels flatulencies, and in many cases abates spasmodic strictures, eases pains, and procures sleep. The dose is from ten to eighty or ninety drops in any convenient vehicle. It is not essentially different from the celebrated anodyne liquor of Hoffman; to which it is, by the author himself, not unfrequently directed as a succedaneum.

Of this fluid, however, or at least of an article probably still more nearly resembling it, we shall afterwards have occasion to speak, when we treat of the *Spiritus ætheris vitriolici vinosus*.

ÆTHER VITRIOLICUS.

Lond.

Vitriolic æther.

Take

Take of
The spirit of vitriolic æther, two pounds.
Water of pure kali, one ounce.
Shake them together, and distil, with a gentle heat, fourteen ounces by measure.

LIQUOR ÆTHEREUS VITRIOLICUS.

Edin.

Vitriolic æthereal liquor.

Take of
Rectified spirit of wine.
Vitriolic acid, of each thirty-two ounces.
Pour the spirit into a glass retort fit for sustaining a sudden heat, and add to it the acid in an uniform stream. Mix them by degrees, frequently shaking them moderately; this done, instantly distil from sand previously heated for that purpose, into a receiver kept cool with water or snow. But the heat is to be so managed, that the liquor shall boil at first, and continue to boil till fixteen ounces are drawn off; then let the retort be raised out of the sand.
To the distilled liquor add two drams of the causticum commune acerrimum; then distil again in a very high retort with a very gentle heat, into a cool receiver, until ten ounces have been drawn off.
If sixteen ounces of rectified spirit of wine be poured upon the acid remaining in the retort after the first distillation, an æthereal liquor may be obtained by repeating the distillation. This may be done pretty often.

The preparation of this singular fluid, now received into public pharmacopœias, was formerly confined to a few hands; for though several processes have been published for obtaining it, the success of most of them is precarious, and some of them are accompanied also with danger to the operator. The principal difficulty consists in the first part of the distillation.

It has been usual to direct the heat to be kept up till a black froth begins to appear: but if it is managed in the manner here directed, the quantity of æther which the liquor can afford will be formed and drawn off before this sulphureous froth appears. The use of the caustic alkali is to engage any uncombined vitriolic acid which may be present in the first distilled liquor. If a mild alkali were employed for this purpose, the separation of its air by the acid might endanger the bursting of the vessels. This last is indeed an inconvenience which attends the whole of this process. It might in a great measure be obviated by employing a range of receivers such as the *adopter* described in the first part of this work.

The æther, or ætherial spirit, is the lightest, most volatile and inflammable, of all known liquids. It is lighter than the most highly rectified spirit of wine, in the proportion of about 7 to 8: a drop, let fall on the hand, evaporates almost in an instant, scarcely rendering the part moist It does not mix, or only in a small quantity, with water, spirit or wine, alkaline lixivia, volatile alkaline spirits, or acids; but is a powerful dissolvent for oils, balsams, resins, and other analogous substances: it is the only known substance capable of dissolving the *elastic gum*, it has a fragrant odour, which, in consequence of the volatility of the fluid, is diffused, through a large space. It has often been found to

give eaſe in violent headachs, by being applied externally to the part; and to relieve the toothach, by being laid on the afflicted jaw. It has been given alſo internally, with benefit, in hooping coughs, hyſterical caſes, in aſthma, and indeed in almoſt every ſpaſmodic affection, from a few drops to the quantity of half an ounce, in a glaſs of wine or water; which ſhould be ſwallowed as quickly as poſſible, as the æther ſo ſpeedily exhales.

SPIRITUS ÆTHERIS NITROSI.

Lond.

Spirit of nitrous Æther.

Take of

Rectified ſpirit of wine, two pints.

Nitrous acid, half a pound.

Mix them, by pouring in the acid on the ſpirit, and diſtil with a gentle heat one pound ten ounces.

ACIDUM NITRI VINOSUM, vulgo SPIRITUS NITRI DULCIS.

Edinb.

Vinous acid of Nitre, commonly called *Dulcified Spirit of Nitre.*

Take of

Rectified ſpirit of wine, three pounds;

Nitrous acid, one pound.

Pour the ſpirit into a capacious phial, placed in a veſſel full of cold water, and add the acid by degrees, conſtantly agitating them. Let the phial be ſlightly covered, and laid by for ſeven days in a cool place; then diſtil the liquor with the heat of boiling water into a receiver kept cool with water or ſnow, till no more ſpirit comes over.

By allowing the acid and rectified ſpirit to ſtand for ſome time, the union of the two is not only more complete, but the danger alſo of the veſſels giving way to the ebullition and heat conſequent on their being mixed, is in a great meaſure prevented. By fixing the degree of heat to the boiling point, the ſuperabundant acid matter is left in the retort, being too ponderous to be raiſed by that degree of heat.

Here the operator muſt take care not to invert the order of mixing the two liquors, by pouring the vinous ſpirit into the acid; for if he ſhould, a violent effervescence and heat would enſue, and the matter be diſperſed in highly noxious red fumes. The moſt convenient and ſafe method of performing the mixture ſeems to be, to put the inflammable ſpirit into a large glaſs bottle with a narrow mouth, placed under a chimney, and to pour in it the acid, by means of a glaſs funnel, in very ſmall quantities at a time; ſhaking the veſſel as ſoon as the effervescence enſuing upon each addition ceaſes, before a freſh quantity is put in: by this means the glaſs will heat equally, and be prevented from breaking. During the action of the two ſpirits upon each other, the veſſel ſhould be lightly covered: if cloſe ſtopt, it will burſt; and if left entirely open, ſome of the more valuable parts will exhale. Lemery directs the mixture to be made in an open veſſel; by which unſcientifical procedure, he uſually loſt, as he himſelf obſerves, half his liquor; and we may preſume, that the remainder was not the medicine here intended.

Several methods have been contrived for obviating the inconveniences ariſing from the elaſtic fluid and violent exploſions produced on the mixture of the nitrous acid and rectified ſpirit of wine: for preparing the nitrous æther they are abſolutely neceſſary, and might perhaps

haps be conveniently used for making the dulcified spirit. The method we judge to be the best, is that employed by Dr Black. On two ounces of the strong acid put into a phial, the Doctor pours, slowly and gradually, about an equal quantity of water; which, by being made to trickle down the sides of the phial, floats on the surface of the acid without mixing with it; he then adds, in the same cautious manner, three ounces of highly rectified spirit of wine, which in its turn floats on the surface of the water. By this means the three fluids are kept separate on account of their different specific gravities, and a stratum of water is interposed between the acid and spirit. The phial is now set in a cool place: the acid gradually ascends, and the spirit descends through the water, this last acting as a boundary to restrain their violent action on each other. By this method a quantity of nitrous æther is formed, without the danger of producing elastic vapours or explosion.

For the preparation of the dulcified spirit, the liquors, when mixed together, should be suffered to rest for some time, as above directed, that the fumes may entirely subside, and the union be in some measure completed. The distillation should be performed with a very slow and well regulated fire; otherwise the vapour will expand with so much force as to burst the vessels. Wilson seems to have experienced the justness of this observation, and hence directs the juncture of the retort and receiver not to be luted, or but slightly: if a tubulated recipient, with a sufficiently long pipe, be used, and the distillation performed with the heat of a water-bath, the vessels may be luted without any danger: this method has likewise another advantage, as it ascertains the time when the operation is finished: examining the distilled spirit every now and then with alkaline salts, as directed above, is sufficiently troublesome; while in a water-bath we may safely draw over all that will rise; for this heat will elevate no more of the acid than what is dulcified by the vinous spirit.

Dulcified spirit of nitre has been long held, and not undeservedly, in great esteem. It quenches thirst, promotes the natural secretions, expels flatulencies, and moderately strengthens the stomach: it may be given from twenty drops to a dram, in any convenient vehicle. Mixed with a small quantity of spirit of hartshorn, the spiritus volatilis aromaticus, or any other alkaline spirit, it proves a mild, yet efficacious, diaphoretic, and often remarkably diuretic; especially in some febrile cases, where such a salutary evacuation is wanted. A small proportion of this spirit added to malt spirits, gives them a flavour approaching to that of French Brandy.

SPIRITUS AMMONIÆ.

Lond.

Spirit of Ammonia.

Take of

Proof-spirit, three pints;
Sal ammoniac, four ounces;
Pot-ash, six ounces.

Mix and distil with a slow fire one pint and an half.

SPIRITUS SALIS AMMONIACI VINOSUS.

Edin.

Vinous spirit of Sal Ammoniac.

Take of

Quicklime, sixteen ounces;
Sal ammoniac, eight ounces;
Rectified spirit of wine, thirty-two ounces.

Having slightly bruised and mixed the

the quicklime and ammoniacal salt, put them into a glass retort; then add the spirit, and distil in the manner directed for the volatile caustic alkali, till all the spirit has passed over.

This spirit has lately come much into esteem, both as a medicine and a menstruum. It is a solution of volatile salt in rectified spirit of wine; for though proof-spirit be used, its phlegmatic part does not rise in the distillation, and serves only to facilitate the action of the pure spirit upon the ammoniacal salt. Rectified spirit of wine does not dissolve volatile alkaline salts by simple mixture: on the contrary, it precipitates them, as has been already observed, when they are previously dissolved in water: but by the present process, a considerable proportion of the volatile alkali is combined with the spirit. It might perhaps, for some purposes, be more adviseable to use with this intention the volatile spirit made with quicklime; for this may be mixed at once with rectified spirit of wine, in any proportion, without the least danger of any separation of the volatile alkali.

The name here employed by the London college, particularly when put in contradistinction to the aqua ammonia, conveys a clear idea of the article, and is, we think, preferable to that employed by the Edinburgh college.

As a menstruum, the spiritus ammoniæ is employed to dissolve essential oils, thus forming the spiritus volatilis aromaticus, or *spiritus ammoniæ compositus*, as it is now called by the London college, which again is employed in making the tinctures of guaiac, valerian, &c.

The chief medical virtues which the spiritus ammoniæ possesses, when exhibited by itself, are those of the volatile alkali.

SPIRITUS AMMONIÆ FŒTIDUS.

Lond.

Fetid Spirit of Ammonia.

Take of
Proof-spirit, six pints;
Sal ammoniac, one pound;
Asafœtida, four ounces;
Pot-ash, one pound and a half.
Mix them, and draw off by distillation five pints, with a slow fire.

Edinb.

Take of
Vinous spirit of sal ammoniac, eight ounces;
Asafœtida, half an ounce.
Digest in a close vessel twelve hours; then distil off with the heat of boiling water eight ounces.

This spirit, the last formula of which is in our opinion the best, as being most easily prepared without any risk of being injured in the preparation, is designed as an antihysteric, and is undoubtedly a very elegant one. Volatile spirits, impregnated for these purposes with different fetids, have been usually kept in the shops: the ingredient here made choice of, is the best calculated of any for general use, and equivalent in virtue to them all. The spirit is pale when newly distilled, but acquires a considerable tinge in keeping.

SPIRITUS ANISI COMPOSITUS.

Lond.

Compound Spirit of Aniseed.

Take of
Aniseed,
Angelica-seed, of each, bruised, half a pound;
Proof-spirit, one gallon;
Water,

Water, ſufficient to prevent an empyreuma.

Draw off one gallon by diſtillation.

This compound ſpirit is now directed to be prepared by the London college in the ſame manner as in their former edition. It has no place in the Edinburgh pharmacopœia; but it may juſtly be conſidered as a very elegant aniſed water. The angelica ſeeds greatly improve the flavour of the aniſe. It is often employed with advantage, particularly in caſes of flatulent cholic; but it has been alleged to be ſometimes too frequently uſed with this intention as a domeſtic medicine, eſpecially by old ladies: for unleſs it be prudently and cautiouſly employed, it may ſoon be attended with all the pernicious conſequences of dram-drinking.

SPIRITUS CARUI.

Lond.

Spirit of Carraway.

Take of

Carraway ſeeds, bruiſed, half a pound;

Proof ſpirit, one gallon;

Water, ſufficient to prevent an empyreuma.

Draw off one gallon.

AQUA CARVI SPIRITUOSA.

Edin.

Spiritous Carroway-water.

Take of

Caraway-ſeeds, half a pound;

Proof-ſpirit, nine pounds.

Macerate two days in a cloſe veſſel; then pour on as much water as will prevent an empyreuma, and draw off by diſtillation nine pounds.

By this proceſs the ſpirit obtains in great perfection the flavour of the caraway-ſeeds; and with ſome it is a cordial not uncommonly in uſe.

SPIRITUS CINNAMOMI.

Lond.

Spirit of Cinnamon.

Take of

Bruiſed cinnamon one pound;

Proof-ſpirit, one gallon;

Water, ſufficient to prevent an empyreuma.

Draw off one gallon.

AQUA CINNAMOMI SPIRITUOSA.

Edinb.

Spirituous Cinnamon-water.

From one pound of cinnamon, nine pounds of ſpirit are to be drawn off, in the ſame manner as in the caraway ſpirit.

This is a very agreeable and uſeful cordial, but not ſo ſtrong of the cinnamon as might be expected; for very little of the virtues of the ſpice ariſes till after the pure ſpirituous part has diſtilled. Hence in the former editions of the London Pharmacopœia, the diſtillation was ordered to be protracted till two pints more than here directed were come over. By this means, the whole virtue of the cinnamon was more frugally than judiciouſly obtained; for the diſagreeable flavour of the feints of proof ſpirits, and the acidulous liquor ariſing from cinnamon as well as other vegetables when their diſtillation is long continued, give an ill reliſh to the whole; at the ſame time that the oil which was extracted from the ſpice was by this acid thrown down.

In the Pharmacopœia Reformata, it is propoſed to make this ſpirit by mixing the aqua cinnamomi ſimplex with ſomewhat leſs than an equal quantity of rectified ſpirit: on ſhaking them together, the liquor loſes its

its milky hue, soon becomes clear, and more elegant than the water distilled as above: it is equally strong of the cinnamon, and free from the nauseous taint with which the common proof-spirits are impregnated.

SPIRITUS JUNIPERI COMPOSITUS.

Lond.

Compound Spirit of Juniper.

Take of
- Juniper-berries, bruised, one pound;
- Caraway-seeds, bruised,
- Sweet-fennel seeds, of each one ounce and an half;
- Proof-spirit, one gallon;
- Water, sufficient to prevent an empyreuma.

Draw off one gallon.

AQUA JUNIPERI COMPOSITA.

Edinb.

Compound Juniper-water.

Take of
- Juniper berries, well bruised, one pound;
- Seeds of caraway, sweet fennel, each one ounce and a half;
- Proof-spirit, nine pounds;

Macerate two days; and having added as much water as will prevent an empyreuma, draw off by distillation nine pounds.

This water, mixed with about an equal quantity of the rob of juniper-berries, proves an useful medicine in cattarrhs, debility of the stomach and intestines, and scarcity of urine. The water by itself is a good cordial and carminative: the service which this and other spirituous waters do with these intentions is commonly known; though the ill consequences that follow from their constant use are too little regarded.

SPIRITUS LAVENDULÆ.

Lond.

Spirit of Lavender.

Take of
- Fresh flowers of lavender, one pound and an half;
- Proof spirit, one gallon.

Draw off by distillation in a water-bath, five pints.

SPIRITUS LAVENDULÆ SIMPLEX.

Edinb.

Simple Spirit of Lavender.

Take of
- Flowering spikes of lavender, fresh gathered, two pounds;
- Rectified spirit of wine, eight pounds.

Draw off by the heat of boiling water, seven pounds.

This spirit, when made in perfection, is very grateful and fragrant: It is frequently rubbed on the temples, &c. under the notion of refreshing and comforting the nerves; and it probably operates as a powerful stimulus to their sensible extremities: it is likewise taken internally, to the quantity of a tea-spoonful, as a warm cordial.

SPIRITUS MENTHÆ PIPERITIDIS.

Lond.

Spirit of Peppermint.

Take of
- The herb pepper-mint, dried, one pound and an half;
- Proof-spirit, one gallon;
- Water, sufficient to prevent an empyreuma.

Draw off one gallon.

AQUA FOLIORUM MENTHÆ PIPERITIDIS SPIRITUOSA.

Edinb.

Spirituous Peppermint-water.

From a pound and a half of these leaves, nine pounds of spirit are drawn

drawn off, as from the caraway-seeds.

This spirit receives a strong impregnation from the peppermint. It is employed in flatulent colics and similar disorders; and in these it sometimes gives immediate relief: but where it is indicated, there are few cases in which the peppermint water is not preferable.

SPIRITUS MENTHÆ SATIVÆ.

Lond.

Spirit of Spearmint.

Take of

Spearmint, dried, one pound and an half;
Proof-spirit, one gallon;
Water, sufficient to prevent an empyreuma.

Draw off one gallon.

This spirit has no place in the Edinburgh pharmacopœia. It, however, turns out a very elegant one, and preferable, in weakness of the stomach, retching to vomit, and the like, to many more elaborate preparations. Where the disorder is not accompanied with heat or inflammation, half an ounce of this water may be given diluted with some agreeable aqueous liquor: but, as was already observed with regard to the preceding article, there are many cases in which the prudent practitioner will be disposed to give the preference to the simple distilled water.

SPIRITUS NUCIS MOSCHATÆ.

Lond.

Spirit of Nutmeg.

Take of

Bruised nutmegs, two ounces;
Proof-spirit, one gallon;
Water, sufficient to prevent an empyreuma.

Draw off one gallon.

AQUA NUCIS MOSCHATÆ SPIRITUOSA.

Edin.

Spirituous Nutmeg-water.

By two ounces of the nutmeg well bruised, nine pounds of spirit are impregnated.

This is an agreeable spirituous liquor, highly impregnated with the nutmeg flavour. It was formerly celebrated in nephritic disorders, and when combined with a few hawthorn flowers, it had even the title of *aqua nephritica*. At present it is employed only as a cordial liquor, and is not even very frequently in use.

SPIRITUS PIMENTO.

Lond.

Spirit of Pimento, or *All-spice.*

Take of

All-spice, bruised, two ounces;
Proof-spirit, one gallon;
Water, sufficient to prevent an empyreuma.

Draw off one gallon.

AQUA PIPERIS JAMAICENSIS SPIRITUOSA.

Edin.

Spirituous Jamaica-pepper Water.

By half a pound of pimento, nine pounds of spirit are to be impregnated.

This water is far more agreeable than a simple water drawn from the same spice; and had long a place among the cordials of the distiller before it was received into any public pharmacopœia: but although now adopted both by the London and Edinburgh colleges, it is not very

very frequently ordered from the shops of the apothecary.

SPIRITUS PULEGII.

Lond.

Spirit of Pennyroyal.

Take of

The herb pennyroyal, dried, one pound and an half;
Proof-spirit, one gallon;
Water, sufficient to prevent an empyreuma.

Draw off one gallon.

This spirit has no place in the Edinburgh pharmacopœia. It possesses, however, a considerable share of the flavour of the pennyroyal, and very frequently it is employed as a carminative and anti-hysteric.

SPIRITUS RAPHANI COMPOSITUS.

Lond.

Compound spirit of Horse-radish.

Take of

Fresh horse-radish root,
Dried outer-rind of Seville oranges, each two pounds;
Fresh herb of garden scurvygrass, four pounds;
Bruised nutmegs, one ounce;
Proof-spirit, two gallons;
Water, sufficient to prevent an empyreuma.

Draw off two gallons.

This spirit has long been considered as an elegant one, and is perhaps as well adapted for the purposes of an antiscorbutic as any thing that can be contrived in this form. It has been alleged, that the horse-radish and scurvygrass join very well together, giving a similar flavour, though not a little disagreeable; that the nutmeg suppresses this flavour very successfully, without superadding any of itsown, and that to this, orange-peel adds a flavour very agreeable. Arum-root had formerly a place in this water, but is here deservedly thrown out; for it gives nothing of its pungency over the helm, notwithstanding what is asserted by some pharmaceutical writers to the contrary. Mustard seed, though not hitherto employed in these kinds of compositions, would seem to be an excellent ingredient; it gives over the whole of its pungency, and is likewise less perishable than most of the other substances of this class: this seed wants no addition, excepting some aromatic material to furnish an agreeable flavour.

But although this process may furnish an agreeable compound spirit, yet it is much to be doubted, whether it possess those antiscorbutic powers for which it was once celebrated. And with this intention the Edinburgh college place so little confidence in it, that they have now rejected it from their pharmacopœia.

SPIRITUS RORISMARINI.

Lond.

Spirit of Rosemary.

Take of

Fresh tops of rosemary, one pound and an half;
Proof-spirit, one gallon.

Distil in a water-bath, five pints.

Edinb.

Take of

Flowering tops of rosemary, fresh gathered, two pounds;
Rectified spirit of wine, eight pounds.

Distil in the heat of boiling water till seven pounds come over.

A spirit similar to this is generally brought to us from abroad, under

under the name of Hungary water.

This spirit is very fragrant, so as to be in common use as a perfume: that brought from abroad is superior in fragrance to such as is generally made among us. In order to prepare it in perfection, the vinous spirit should be extremely pure; the rosemary tops gathered when the flowers are full blown upon them, and committed immediately to distillation, care being taken not to bruise or press them. The best method of managing the distillation, is that which was formerly recommended for the distillation of the more volatile essential oils and simple waters, viz. first to place the spirit in the still, and then set in, above the liquor, either an iron hoop, with a hair-cloth stretched over it, upon which the flowers are to be lightly spread, or rather a basket, supported on three pins, reaching down to the bottom. A gentle heat being applied, just sufficient to raise the spirit, its vapour slightly percolating through the flowers, will imbibe their finer parts, without making that disagreeable alteration, which liquors applied to such tender subjects, in their grosser form, generally do. Probably the superiority of the French Hungary water, to that prepared among us, is owing to some skilful management of this kind, or to employing a perfectly pure spirit.

In the Wirtemberg pharmacopœia, some sage and ginger are added, in the proportion of half a pound of the former, and two ounces of the latter, to four pounds of the rosemary.

But the peculiar agreeable flavour of this water in all probability depends on the rosemary alone.

AQUA CARMELITANA.

Dan.

Carmelite water, or compound Balm-water.

Take of
- Fresh gathered leaves of balm, a pound and a half;
- The recent yellow rind of lemons, four ounces;
- Nutmeg,
- Coriander, each two ounces;
- Cloves,
- Cinnamon, each one ounce.

The ingredients being sliced and bruised, pour upon them;
- Rectified spirit of wine, six pounds;
- Balm-water, three pounds.

Digest for three days, then draw off six pounds by distillation.

This spirit has been a good deal celebrated, particularly among the French, under the title of *Eau de Carmes*. Mr Baumé, in his Elemens de Pharmacie, proposes some improvements on the process. After the spirit added to the ingredients has been drawn off in the heat of a water-bath, he orders the distilled liquor to be rectified by a second distillation, drawing off somewhat less than nine-tenths of it. He recommends, that all the aromatic spirits should be prepared in the same manner. When the common spirits of this kind are rubbed on the hands, &c. they leave, after the more volatile parts have exhaled, a disagreeable empyreumatic smell; and when diluted with water, and taken medicinally, they leave in like manner a nauseous flavour in the mouth. To remedy these imperfections, he made many experiments, which shewed, that in order to obtain these liquors of the desirable qualities, the spirit must not only be perfectly pure at first,

but that the liquor ought also to be rectified after it has been distilled from the subjects. In this rectification, only the more volatile, subtile, aromatic parts of the ingredients arise: there remains behind a white liquor, acrid, bitter, loaded only with the grosser oil, and deprived of all the specific flavour of the subjects. Indeed the very imperfection complained of, naturally points out this second distillation as the remedy; for it shews the spirit to contain a grateful and ungrateful matter; the first of which exhales, while the other is left behind. The author says, that when the *aqua melissæ* is prepared as above directed, it has something in it more perfect than any of the odoriferous spirits, whose excellence is cried up, and which have the reputation of being the best.

Aromatic spirituous liquors have in general less smell, when newly distilled, than after they have been kept about six months. M. Baumé suspects that the preparations of this kind which have been most in vogue, were such as have been thus improved by keeping: and found that the good effects of age might be produced in a short time by means of cold. He plunges quart bottles of the liquor into a mixture of pounded ice and sea-salt: the spirit, after having suffered, for six or eight hours, the cold thence resulting, proves as grateful as that which has been kept for several years. Simple waters also, after being frozen, prove far more agreeable than they were before, though they are always less so than those which have been drawn with spirit, and exposed to a like degree of cold. This melioration of distilled waters by frost was taken notice of by Geoffroy.

SPIRITUS COCHLEARIÆ.

Succ.

Spirit of Scurvygrass.

Take of

Fresh scurvygrass, bruised, ten pounds;

Rectified spirit of wine, eight pints.

With the heat of a water bath, distil off four pints.

This spirit is very strong of the scurvygrass; and has been given, in those cases where the use of this herb is proper, from twenty to one hundred drops. The virtues of scurvygrass reside in a very subtile, volatile oil, which arises in distillation both with water and pure spirit; and if the liquors are exposed to the air, soon exhales from both. The spirit, newly distilled, is extremely pungent; but if long kept, even in close vessels, it becomes remarkably less so: But it is not probable, that with such a pungent vehicle we can use a sufficient quantity of the herb to produce any permanent or considerable effect: it has been much recommended as a diuretic in dropsies.

The makers of this spirit have frequently added to the scurvygrass a quantity of horse-radish root, and sometimes substituted for it one drawn entirely from the horse-radish: the flavour of these two simples being so much alike, that their distilled spirits are scarcely distinguishable from each other. Here it may be observed, that though *arum* and *dracunculus* are usually ranked in the same class with the two foregoing vegetables, and considered as similar to them; this process discovers a remarkable difference: while the former yield all their pungency in distillation both to water and spirit; the latter give over nothing to either,

either, and yet their virtues are destroyed in the operation.

SPIRITUS AURANTII.

Suec.

Orange-peel Water.

Take of

Recent orange skins, one pound;
Proof-spirit, three pounds.

Draw off two pounds by the heat of a water bath.

This spirit, which is now rejected from our pharmacopœias, had formerly a place in them under the title of *aqua corticum aurantiorum spirituosa*. It is considerably stronger of the orange-peel than the simple water; and it is used as an useful cordial, stomachic, and carminative.

SPIRITUS AROMATICUS.

Suec.

Aromatic Spirit.

Take of

The tops of rosemary, a pound an half;
Tops of milfoil,
Thyme, each half a pound;
Proof-spirit, sixteen pounds; macerate for two days, and draw off by distillation, eight pounds.

If before distillation eight pounds of vinegar be added, it forms the spiritus aromaticus acetatus.

These preparations do not differ materially from the spirit of rosemary or Hungary water; for on the essential oil of the rosemary their medicinal properties may be considered as chiefly depending. They are often employed, particularly for external purposes, and for impregnating the air with their vapours, to destroy the influence of febrile contagions.

SPIRITUS ANTICTERICUS.

Gen.

Anticteric Spirit.

Take of

Spirit of turpentine, an ounce and an half;
Rectified spirit of wine, half a pound.

Distil with a gentle heat. Let the oil swimming above in the receiver be separated from the saturated spirit, which is to be preserved for use.

It has been imagined, that this combination of oil of turpentine with ardent spirit will furnish an effectual solvent for biliary calculi. Hence the origin of the name here given it; but although it may have such an effect when copiously applied to the calculi in a glass vessel; yet this is not to be expected when it is taken into the stomach, and can only reach them in the course of circulation.

CHAP.

CHAP. XIX.

DECOCTA ET INFUSA.

DECOCTIONS AND INFUSIONS.

WATER, the direct menſtruum of gums and ſalts, extracts readily the gummy and ſaline parts of vegetables. Its action, however, is not limited to theſe; the reſinous and oily principles being, in moſt vegetables, ſo intimately blended with the gummy and ſaline, as to be in part taken up along with them: ſome of the reſinous cathartics, and moſt of the aromatic herbs, as well as bitters and aſtringents, yield to water the greateſt part of their ſmell, taſte, and medicinal virtue. Even of the pure eſſential oils, and odorous reſins of vegetables, ſeparated from the other principles, water imbibes a part of the flavour; and by the artificial admixture of gummy or ſaline matter, the whole ſubſtance of the oil or reſin is made ſoluble in water.

Of pure ſalts, water diſſolves only certain determinate quantities: by applying heat, it is generally enabled to take up more than it can do in the cold, and this in proportion to the degree of heat; but as the liquor cools, this additional quantity ſeparates, and the water retains no more than it would have diſſolved without heat. With gummy ſubſtances, on the other hand, it unites unlimitedly, diſſolving more and more of them till it loſes its fluidity. Heat expedites the action of the water, but cannot enable it to take up more than it would do by allowing it longer time in the cold. The active parts extracted from moſt vegetables by water, and oils and reſins made ſoluble in water by the artificial admixture of gum, partake of this property of pure gums, being ſoluble without ſaturation.

It has been imagined, that vegetables in a freſh ſtate, while their oily, reſinous, and other active parts, are already blended with a watery fluid, would yield their virtues to water more freely and more plentifully, than when their native moiſture has been diſſipated by drying. Experience, however, ſhews, that dry vegetables in general give out more than freſh ones, water ſeeming to have little action upon them in their recent ſtate. If, of two equal quantities of mint, one be infuſed freſh in water, and the other dried, and then infuſed in the like quantity of water for the ſame length of time, the infuſion of the dry herb will be remarkably the ſtrongeſt;

strongest: and the case appears to be the same in all the vegetables that have been tried.

In all the preparations described in this chapter, it is to be understood that the subjects must be moderately and newly dried, unless when they are expressly ordered to be taken fresh; in which case it is to be judged that their virtues are destroyed or impaired by drying.

The native colours of many vegetables are communicated to water along with their medicinal matter; many impart a colour different from their own; and others, though of a beautiful and deep colour themselves, give scarcely any to the menstruum. Of the first kind are the yellow and red flowers; of the second, the leaves of most plants; of the third, some of the blue flowers, as those of cyanus and larkspur. Acid liquors change the infusions of most flowers, the yellow ones excepted, to a red; and alkalies, both fixed and volatile, to a green.

From animal substances, water extracts the gelatinous and nutritious parts; whence glues, jellies, broths, &c; and along with these, it takes up principles of more activity, as the acrid matter of cantharides. It dissolves also some portion of calcined calcareous earths, both of the animal and of the mineral kingdom, but has no action on any other kind of earthy matter.

The effect of boiling differs from that of infusion in some material particulars. One of the most obvious differences is, that as the essential oils of vegetables, in which their specific odours reside, are volatile in the heat of boiling water, they exhale in the boiling along with the watery steam, and thus are lost to the remaining decoction; whereas both in cold, and sometimes in hot infusions, they are preserved; although in the latter they are by no means perfectly so. Odorous substances, and those in general whose virtues depend on their volatile parts, are therefore unfit for this treatment. The soluble parts of these may, nevertheless, be united in this form with those bodies of a more fixt nature, by boiling the latter till their virtues be sufficiently extracted, and then infusing the former in this decoction.

The extraction of the virtue of the subject is usually promoted or accelerated by a boiling heat; but this rule is less general than it is commonly supposed to be. We have already observed, that Peruvian bark gives out its virtue more perfectly by cold infusion than by coction. In some cases, boiling occasions a manifest disunion of the principles of the subject: thus, when almonds are triturated with cold water, their oil, blended with the mucilaginous or other soluble matter of the almond, unites with the water into a milky liquor called an emulsion; but on boiling them in water, the oil separates and rises to the surface; and if the most perfect emulsion be made to boil, a like separation happens.

This also appears to take place, though in a less evident manner, in boiling sundry other vegetables; thus tobacco, asarum, and ipecacuanha, lose their active powers by boiling: nor does it appear that this change is effected merely by the discharge of volatile parts. From some late experiments, it has been found, that the distilled water of ipecacuanha was infinitely less emetic than the infusion from which it was distilled, and that the boiling liquor gradually assumes a black co-

colour, indicating some kind of decomposition of parts: the same circumstances probably take place in boiling tobacco, asarum, and perhaps all vegetables whatever, tho' from their not producing such sensible operations on the living body, they cannot be so clearly discovered as in ipecacuanha, tobacco, or asarum. The experiments we allude to, were made by Dr Irving, when a student in the college of Edinburgh; and they gained him the prize given by the Harveian Society of that place, for the best experimental inquiry concerning ipecacuanha.

It is for the above mentioned reasons that we think many of the infusions should be made with cold water: it is, however, to be acknowledged, that this is not always absolutely necessary, and in extemporaneous practice it may be often very inconvenient; it is, however, proper to point out the advantages to be expected from this more tedious, but much more complete and elegant, method.

Vinegar extracts the virtues of several medicinal substances in tolerable perfection: but at the same time its acidity makes a remarkable alteration in them, or superadds a virtue of a different kind; and hence it is more rarely employed with this intention than purely aqueous or spirituous menstrua. Some drugs, however, vinegar, for particular purposes, excellently assists, or coincides with, as squills, garlic, ammoniacum, and others: and in many cases where this acid is itself principally depended on, it may be advantageously impregnated with the flavour of certain vegetables; most of the odoriferous flowers impart to it their fragrance, together with a fine purplish or red colour; violets, for instance, if fresh parcels of them are infused in vinegar in the cold for a little time, communicate to the liquor a pleasant flavour, and deep purplish red colour. Vinegar, like other acids, added to watery infusions or decoctions, generally precipitates a part of what the water had dissolved.

DECOCTUM ALTHÆÆ.

Edinb.

Decoction of Marshmallows.

Take of

Dried marshmallow roots, four ounces;

Raisins of the sun, stoned, two ounces;

Water, seven pounds.

Boil to five pounds; place apart the strained liquor till the feces have subsided, then pour out the clear liquor.

The Edinburgh college have substituted this for the more complicated formula of the *Decoctum ad Nephriticos* of their former pharmacopœia, and it fully answers the intentions of that preparation: it is intended chiefly as an emollient, to be liberally drank of in nephritic paroxysms; in which cases, by softening and relaxing the parts, it frequently relieves the pain, and procures an easy passage for the fabulous matter. This medicine is now made more simple than before, without any diminution of its virtue, by the rejection of wild-carrot seed, restharrow root, figs, linseed, and liquorice. The carrot seeds were indeed unfit for this form, as they give out little of their virtue to watery liquors.

DECOCTUM CORNU CERVI.

Lond.

Decoction of Hartshorn.

Take

Take of
Burnt and prepared hartshorn, two ounces;
Gum arabic, six drams;
Distilled water, three pints.
Boil, constantly stirring, to two pints, and strain.

This decoction is used as common drink in acute diseases attended with a looseness, and where acrimonious humours abound in the primæ viæ. The gum is added, in order to render the liquor lightly glutinous, and thus enable it to sustain more of the calx; which is the ingredient on which the colour, but probably not the virtue, of the medicine depends upon. Calcined hartshorn has no quality from which it seems capable either of constringing and strengthening the vessels, giving a greater degree of consistency to thin fluids, or obtunding acrimonious humours. It blunts and absorbs acid juices; but acrimony and acidity are very different; there are few (perhaps none of the acute) disorders of adults attended with the latter; and few of infants are unaccompanied therewith. Some have proposed starch as an ingredient in these kinds of decoctions; a small quantity of this soft, gelatinous, farinaceous substance would seem to be greatly preferable to the earthy calx. It may be observed, that the water is not enabled by the boiling to dissolve any part of the calx; and that in the decoction, the earth is only diffused in substance through the water, as it would be by agitation.

For these reasons, this formula is now rejected by the Edinburgh college, notwithstanding the reputation in which it was held by Dr Sydenham, and other names of the first eminence. But as an absorbent of a similar nature, the Edinburgh college have introduced the following formula.

POTIO CRETACEA.

Chalk Julep.
Edin.

Take of
Prepared chalk, one ounce;
Purest refined sugar, half an ounce;
Mucilage of gum arabic, two ounces;
Rub them together; and add by degrees,
Water, two pounds and a half;
Spirituous cinnamon water, two ounces.
Mix them.

In the former edition of the Edinburgh pharmacopœia, a preparation of this kind had the title of *Decoctum cretaceum*, and the chalk was directed to be boiled with the water and gum. In the present formula, the chalk is much more completely suspended by the mucilage and sugar, which last gives also to the mixture an agreeable taste; it is proper to employ the finest sugar, as the redundant acid in the coarser kinds might form with the chalk a kind of salt. It would perhaps have been more proper to have added an aromatic, by suspending the entire powder of cinnamon, or its oil, by means of the mucilage and sugar: the method here directed is, however, less exceptionable in this than in many other preparations, as the precipitated matter of the spirituous water will probably be invisceated in the saccharine and mucilaginous matter. This is a very elegant form of exhibiting chalk, and is an useful remedy in diseases arising from, or accompanied with, acidity in the primæ viæ. It has been most frequently employed in fluxes proceeding from that cause. At the same time that the

the mucilage serves to keep the chalk uniformly diffused, it also considerably improves its virtues by sheathing the internal surface of the intestines so often abraded in these affections. It is indeed probable, that chalk, as being somewhat astringent, is in some of these complaints preferable to magnesia; both, however, are improper in dysentery, or other fluxes attended with putrescent matter in the primæ viæ, or a general tendency to a putrefaction of the fluids.

DECOCTUM CORTICIS PERUVIANI.

Lond.

Decoction of Peruvian bark.

Take of

Peruvian bark, powdered, one ounce;

Distilled water, one pint and three ounces.

Boil, for ten minutes, in a covered vessel, and strain the liquor while hot.

Although a cold watery infusion of bark is in general preferable to any decoction, yet this form has at least the advantage of being more quickly prepared. And the decoction here directed, which is boiled only for a short time, and strained while hot, is preferable to any other.

This decoction should be passed only through a coarse strainer, and drank while turbid: if suffered to stand till clear, the more efficacious parts of the bark will subside. We have formerly observed, that the virtues of this drug consist chiefly in its resinous substance, which, tho' it may be totally melted out by the heat of boiling water, remains only partially suspended in that menstruum.

DECOCTUM PRO ENEMATE.

Lond.

Decoction for a Clyster.

Take of

The dried leaves of mallow, one ounce;

Dried camomile-flowers, half an ounce;

Water, one pint.

Boil, and strain.

The title of this decoction sufficiently expresses its use, as the basis of glysters. The ingredients should be very lightly boiled, or at least the camomile flowers should not be put in till towards the end, a part of their virtue being soon lost by boiling.

DECOCTUM PRO FOMENTO.

Lond.

Decoction for Fomentation.

Take of

The dried leaves of southernwood,

The dried tops of sea worm-wood,

Dried camomile flowers, each one ounce;

Dried bay leaves, half an ounce;

Distilled water, six pints.

Boil them a little, and strain.

DECOCTUM COMMUNE.

Edinb.

Common Decoction.

Take of

Camomile-flowers, one ounce;

Carvy seeds, half an ounce;

Water, five pounds.

Boil for a quarter of an hour, and strain.

This decoction is intended to answer the purposes of both the foregoing. It is less loaded with ingredients than either, but not perhaps, for that reason the less useful.

It

It is indeed to be acknowledged, that these impregnations are for the most part unnecessary for the purpose of glysters; and in ordinary cases the weight of the water usually solicits a discharge before these medicines can produce any effect.

As fomentations, their virtues in our opinion are totally to be ascribed to the influence of the warm water. And when the herbs themselves are applied, they act only as retaining heat and moisture for a longer time.

DECOCTUM HELLEBORI.

Lond.

Decoction of Hellebore.

Take of

The root of white hellebore, powdered, one ounce;
Distilled water, two pints;
Rectified spirit of wine, two ounces.

Boil the water with the root to one pint; and, the liquor being cold and strained, add to it the spirit.

White hellebore, as we formerly observed, is now very rarely employed internally; and the present formula is entirely intended for external use. Recourse is sometimes had to it with advantage in cutaneous eruptions, particularly in tinea capitis. But where the incrustations are entirely removed, leaving a very tender skin, it is necessary that the decoction should be diluted previous to its employment.

DECOCTUM HORDEI.

Lond.

Decoction of Barley.

Take of

Pearl-barley, two ounces;
Distilled water, four pints.

The barley being first washed with cold water from the adhering impurities, pour upon it about half a pint of water, and boil the barley a little time. This water being thrown away, add the distilled water, boiling, to the barley; boil it to two pints, and strain.

DECOCTUM HORDEI COMPOSITUM.

Lond.

Compound Decoction of Barley.

Take of

The decoction of barley, two pints;
Raisins, stoned,
Figs, sliced, each two ounces;
Liquorice-root, sliced and bruised, half an ounce;
Distilled water, one pint.

Boil to two pints, and strain.

DECOCTUM HORDEI.

Edinb.

Barley-water.

Take of

Pearl-barley, two ounces;
Water, five pints.

First wash the barley from the mealy matter that adheres to it with some cold water; then boil it a little with about half a pint of fresh water, which will acquire a considerable tinge from it. Throw away this tinged water; put the barley into the five pints of boiling water prescribed; and continue the boiling till half the water be wasted.

These liquors are to be drank freely as a diluter, in fevers and other disorders: hence it is of consequence that they should be prepared so as to be as elegant and agreeable as possible; for this reason they are inserted in the pharmacopœia, and the several circumstances which contribute to their elegance set down; if any one of them be omitted, the beverage will be less grateful. However trivial medicines

this class may appear to be, they are of greater importance in the cure of acute diseases than many more elaborate preparations.

Barley-water, however, is much more frequently prepared by nurses than apothecaries, particularly in its simple state. The compound decoction contains a large proportion of saccharine and mucilaginous matter, and may be employed for the same purposes as the decoctum altheæ of the Edinburgh pharmacopœia.

DECOCTUM LIGNORUM.

Edinb.

Decoction of the Woods.

Take of

Guiacum saw-dust, three ounces;

Raisins of the sun, stoned, two ounces;

Sassafras wood, shaved,

Liquorice, sliced, each one ounce;

Water, ten pounds.

Boil the guaicum and raisins with the water, over a gentle fire, to the consumption of one half; adding, towards the end, the sassafras and liquorice. Strain out the liquor; and having suffered it to rest for some time, pour off the clear from the feces without expression.

This decoction is very well contrived; and if its use be duly continued, it will do great service in some cutaneous diseases, in what has been called foulness of the blood and juices, and in some disorders of the breast; particularly in phlegmatic habits. It may be taken by itself to the quantity of a quarter of a pint two or three times a day, or used as an assistant in a course of mercurial or antimonial alteratives; the patient in either case keeping warm, in order to promote the operation of the medicine. The saw-dust exposes a larger surface to the action of the water than the shavings, directed in the former edition of the pharmacopœia.

DECOCTUM SARSAPARILLÆ.

Lond.

Decoction of Sarsaparilla.

Take of

The root of sarsaparilla, sliced, six ounces;

Distilled water, eight pints.

Macerate for two hours, with an heat of about 195°; then take out the root, and bruise it; return the bruised root to the liquor, and again macerate it for two hours. Then, the liquor being boiled to four pints, press it out, and strain.

This decoction is an article in very common use, particularly in venereal affections. And there can be little doubt, that by this process the medical powers of the sarsaparilla are fully extracted. But it has of late been much questioned, whether this article be in any degree intitled to the high character which was once given of it. Some, as we have already observed, are even disposed to deny its possessing any medical property whatever: But the general opinion is, that it has somewhat of a diaphoretic effect; and this effect is more readily obtained when it is exhibited under the form of decoction than under any other.

DECOCTUM SARSAPARILLÆ COMPOSITUM.

Lond.

Compound decoction of Sarsaparilla.

Take of

The root of sarsaparilla, sliced and bruised, six ounces;

Bark of the root of sassafras,

Raspings of guaiacum-wood,

Li-

Liquorice root, bruiſed, of each one ounce;
Bark of the root of mezereon, three drams;
Diſtilled water, ten pints.
Macerate, with a gentle heat, for ſix hours; then boil it down to five pints, adding, towards the end, the bark of the root of mezereon, and ſtrain the liquor.

This compound decoction is an elegant mode of preparing an article once highly celebrated under the title of the *Liſbon diet drink*. That formula for a long time after its firſt introduction into Britain, was kept a ſecret; but an account of the method of preparation was at length publiſhed in the Phyſical and Literary Eſſays of Edinburgh, by Dr Donald Monro. And of the formula there given, which is in many reſpects an unchemical one, the preſent may juſtly be conſidered as an improvement. Even in its original form, but ſtill more in the preſent ſtate, there can be no doubt, that it furniſhes us with a very uſeful medicine, particularly in thoſe obſtinate ulcers originating from venereal infection, which reſiſt the power of mercury. And it is highly probable, that its good effects, principally depend on the impregnation it receives from the mezereon. Perhaps, however, even thus improved, it is more complicated and expenſive than is neceſſary: At leaſt we are inclined to think, that every advantage derived from it, may, with equal eaſe and certainty be obtained, from impregnating with the mezereon in the manner here directed, a ſimple decoction of the guaiacum, bardana, or althæa, without having recourſe to ſeveral articles, or employing one ſo expenſive as the ſarſaparilla.

DECOCTUM SENEKÆ.

Edin.

Decoction of Seneka.

Take of
Seneka, or rattleſnake root, one ounce;
Water, two pounds.
Boil to ſixteen ounces, and ſtrain.

The virtues of this decoction will be eaſily underſtood from thoſe of the root from which it is prepared. The doſe, in hydropic caſes, and rheumatic, or arthritic complaints, is two ounces, to be repeated three or four times a-day, according to its effect.

DECOCTUM ULMI.

Lond.

Decoction of Elm.

Take of
The freſh inner bark of elm, bruiſed, four ounces;
Diſtilled water, four pints.
Boil to two pints, and ſtrain.

It has been chiefly, if not entirely, under this form of decoction, that the elm-bark has been employed for combating thoſe cutaneous eruptions againſt which it has of late been ſo highly celebrated. Any experience which we have had of it, however, in actual practice, by no means confirms the very favourable account which ſome have given of its uſe.

MUCILAGO AMYLI.

Lond.

Mucilage of Starch.

Take of
Starch, three drams;
Diſtilled water, one pint.
Rub the ſtarch, by degrees adding the diſtilled water; then boil it a little time.

The mucilage thus formed of ſtarch is very uſeful for anſwering theſe

these purposes where a glutinous substance is required, and in particular it is often successfully employed under the form of glyster.

MUCILAGO ARABICI GUMMI.

Lond.

Mucilage of Gum Arabic.

Take of

Gum arabic, powdered, four ounces;

Boiling distilled water, eight ounces.

Rub the gum with the water until it be dissolved.

MUCILAGO GUMMI ARABICI.

Edinb.

Mucilage of Gum Arabic.

Take of

Gum arabic, beat into powder, and warm water, each equal weights.

Digest, and frequently stir them till the gum be dissolved, then press the solution through linen.

It is very necessary to pass the mucilage through linen in order to free it from pieces of wood and other impurities, which always adhere to the gum; the linen may be placed in a funnel.

Mucilage of gum arabic is very useful in many operations in pharmacy: it is also much used for properties peculiar to those substances of its own class, and of all the gums it seems to be the purest.

MUCILAGO GUMMI TRAGACANTHÆ.

Edinb.

Mucilage of Gum Tragacanth.

Take of

Gum tragacanth, powdered, one ounce;

Hot water, eight ounces.

Macerate twenty-four hours; then mix them, by rubbing briskly, that the gum may be dissolved; and press the mucilage through linen cloth.

This gum is more difficultly soluble in water than gum arabic, and seems to be considerably more adhesive; it is therefore fitter for forming troches, and such like purposes. It has been thought to be more peculiarly what has been called a pectoral, than the other gums; but but this does not seem to be certainly founded. This mucilage is perhaps preferable to the foregoing in those operations in pharmacy where much tenacity is required; as in the suspension of mercury, or other ponderous bodies.

MUCILAGO SEMINIS CYDONII MALI.

Lond.

Mucilage of Quince-seed.

Take of

Seeds of the quince, one dram;

Distilled water, eight ounces, by measure.

Boil with a slow fire until the water thickens; then pass it thro' linen.

This is a pleasant soft mucilage, of a somewhat sweetish taste, and a light agreeable smell: in these respects, and in its easy solubility in water, it differs from the mucilage of gum tragacanth, to which some have supposed it similar: it has another difference, to its disadvantage, being apt to grow mouldy in keeping.

INFUSUM GENTIANÆ COMPOSITUM.

Lond.

Compound Infusion of Gentian.

Take of

The root of gentian, one dram;

Fresh outer-rind of lemons, half an ounce;

Dried outer-rind of Seville oranges, one dram and an half.

Boil-

Boiling water, twelve ounces, by measure.

Macerate for an hour, and strain.

INFUSUM AMARUM.

Edinb.

Bitter Infusion.

Take of

Gentian root, half an ounce;
Dried peel of Seville oranges, one dram;
Coriander seeds, half a dram;
Proof-spirit, four ounces;
Water, one pound.

First pour on the spirit, and three hours thereafter add the water; then macerate without heat for a night, and strain.

These formulæ do not materially differ. That of the London college is the most expeditious mode of preparation: But that of the Edinburgh college possesses other advantages, which are in our opinion more than sufficient to outweigh that circumstance.

In the former edition of the Edinburgh Pharmacopœia, the water was directed to be boiling: this was at least unnecessary, and was probably liable to the objections observed against decoctions. The proof spirit is also an useful addition to the infusum amarum, as it now stands in the Edinburgh pharmacopœia; besides that it assists in extracting the resinous parts, and preserving the infusion from fermentation, it communicates an agreeable pungency to the liquor: to answer in some measure these intentions, it was formerly directed to add to the filtrated liquor a quantity of aqua aromatica. This was certainly a piece of very bad pharmacy; for, besides that the spirit in this preparation, when diluted with the water of the infusion, was now no longer able to retain the suspended matter, it would also dispose the infusion to part with its proper extractive matter; and in this way the resinous matter of the aqua aromatica, and the gummy parts of the infusum amarum, would both in some degree separate to the bottom of the vessel; by the *formula* now laid down, the infusion contains the different principles of the ingredients in a manner more nearly approaching to their natural and entire state.

INFUSUM SENNÆ SIMPLEX.

Lond.

Simple Infusion of Senna.

Take of

Senna, an ounce and a half;
Ginger, powdered, one dram;
Boiling distilled water, one pint.

Macerate them for an hour, in a covered vessel; and, the liquor, being cold, strain it.

This, although a simple, is a very elegant infusion of senna, the ginger acting as an useful corrigens. But if the senna were employed to the quantity of a dram and an half or two drams only, with the same menstruum in place of the quantity here ordered, it would be a no less useful medicine, and might be employed for one dose, as it is best when fresh. Of the present infusion, an ounce or two is a sufficient dose.

INFUSUM SENNÆ TARTARISATUM.

Lond.

Tartarized Infusion of Senna.

Take of

Senna, one ounce and a half;
Coriander-seeds, bruised, half an ounce;
Crystals of tartar, two drams;
Distilled water, one pint.

Dissolve the crystals of tartar by boiling in the water; then pour the water, as yet boiling, on the senna and seeds. Macerate for an hour

hour in a covered veſſel, and ſtrain when cold.

In the laſt edition of the London pharmacopœia this had the name of *infuſum ſennæ commune.*

Formerly an alkaline ſalt was uſed in the infuſion of ſenna, inſtead of the acid one here directed. The firſt was ſuppoſed to promote the operation of the medicine, by ſuperadding a degree of purgative virtue of its own, and by enabling the water to extract ſomewhat more from the capital ingredient than it would be capable of doing by itſelf; while acids were alleged to have rather a contrary effect. Experience, however, has ſufficiently ſhewn, that alkaline ſalts increaſe the offenſiveneſs of the ſenna, while cryſtals of tartar conſiderably improve the colour of the infuſion, and likewiſe render the taſte to ſome perſons leſs diſagreeable. Soluble tartar ſhould ſeem a good ingredient to theſe kinds of compoſitions, as it not only improves the taſte, but promotes the purgative virtue of the medicine; this addition alſo renders the infuſion leſs apt to gripe, or occaſion flatulencies.

INFUSUM TAMARINDORUM cum SENNA.

Edinb.

Infuſion of Tamarinds with Senna.

Take of

Tamarinds, ſix drams;
Cryſtals of tartar,
Senna, each one dram;
Coriander ſeeds, half a dram;
Brown ſugar candy, half an ounce;
Boiling water, eight ounces.

Macerate in a cloſe earthen veſſel, which has not been vitrified with lead; ſtir the liquor now and then, and after it has ſtood four hours ſtrain it. It may alſo be made with double, triple, &c. the quantity of ſenna.

Both this and the former infuſions might be made with cold water. By this means the aromatic quality of the coriander ſeeds would probably be extracted in a more perfect ſtate; but the cryſtals of tartar are ſo difficultly ſoluble in cold water, that for extemporaneous uſe it is in ſome meaſure neceſſary to prepare them in the manner here directed: it is not indeed probable, that when ſuch ſoluble matters as acids and ſugar are preſented to water, the water ſhall be able to extract ſuch a quantity of the finer volatile part of aromatics, as to afford any conſiderable flavour to the liquor: where an aromatic is required, we would therefore propoſe, that ſome agreeable aromatic water ſhould be mixed with the liquor immediately before ſwallowing it; or that a quantity of aromatic oil ſhould be incorporated with the cold infuſion by means of gum, or a part of the ſugar which might be reſerved for that purpoſe. It is a very neceſſary caution not to make this infuſion in veſſels glazed with lead, otherwiſe the acid might corrode the lead, and communicate its poiſonous effects to the infuſion.

Both theſe infuſions are mild and uſeful purges, the latter in particular is excellently ſuited for delicate ſtomachs, at the ſame time that it is very much calculated for febrile and other acute diſeaſes. It is obſervable, that ſugar added to neutral ſalts, rather increaſes than diminiſhes their naſeouſneſs; but when uſed along with an acid, ſuch as tamarinds, or a ſalt wherein the acid predominates, as in cryſtals of tartar, it is found very much to improve their taſte: the acid in this infuſion, or rather the combination of acid and ſweet, are found to cover the taſte of the ſenna very effectually; the aromatic ſerves alſo the ſame purpoſe, but would perhaps

haps be better applied in the way above proposed.

INFUSUM ROSÆ.

Lond.

Infusion of the Rose.

Take of

Red rose-buds, the heels being cut off, half an ounce;
Vitriolic acid, diluted, three drams;
Boiling distilled water, two pints and a half;
Double-refined sugar, one ounce and a half.

To the water, first poured on the petals in a glass vessel, add the diluted vitriolic acid, and macerate for half an hour. Strain the liquor when cold, and add the sugar.

INFUSUM vulgo TINCTURA ROSARUM.

Edinb.

Infusion, commonly called *Tincture of Roses.*

Take of

Red roses, dried, one ounce;
Boiling water, five pounds;
Vitriolic acid, one dram;
White sugar, two ounces.

Macerate the roses with the boiling water in an unglazed vessel four hours; then having poured on the acid, strain the liquor, and add the sugar.

Some have directed the vitriolic acid to be dropped upon the roses before the water is put to them; but this method is certainly faulty; for such of the roses as this caustic liquor falls on undiluted, will be burnt up by it, and have their texture destroyed. Others have made an infusion of the roses in water first, and then added the acid, from an apprehension, that if this acid be added to the water, it would weaken its power as a menstruum; but whatever the acid spirit will hinder the water from extracting, it must precipitate if added afterwards; though, in this preparation, the vitriolic acid bears so small a proportion to the water, that its effects in this respect will be very little; and it appears to be of little consequence which of the two ways be followed, only that by the above formula the vessels are exposed a shorter time to the action of the acid. The infusion should be made in a glass or stone-ware vessel, rather than a glazed earthen one; for the acid will be apt to corrode the glazing of the latter.

This infusion is of an elegant red colour, and makes a very grateful addition to juleps in hæmorrhagies, and in all cases which require mild coolers and subastringents: it is sometimes taken with boluses or electuaries of the bark, and likewise makes a good gargle; but although in our pharmacopœias it has its name from the roses, yet its virtues are to be ascribed chiefly, or perhaps solely, to the vitriolic acid.

INFUSUM RHEI.

Edinb.

Infusion of Rhubarb.

Take of

Rhubarb, half an ounce;
Boiling water, eight ounces;
Spirituous cinnamon water, one ounce.

Macerate the rhubarb in a glass vessel with the boiling water for a night; then having added the cinnamon water, strain the liquor.

In this infusion cold water might perhaps be employed with advantage; we also object to the spirituous cinnamon water on the same grounds as we did before to the aqua aromatica in the infusum amarum of the former edition of the

Edinburgh pharmacopœia: this, however, appears to be one of the beſt preparations of rhubarb, when deſigned as a purgative; water extracting its virtue more effectually than either vinous or ſpirituous menſtrua: in this reſpect rhubarb differs from moſt of the other vegetable cathartics; and we think the London college might have given it a place in their Pharmacopœia as well as the vinum or tinctura rhabarbari.

AQUA CALCIS.

Lond.

Lime-water.

Take of
Quicklime, half a pound;
Boiling diſtilled water, twelve pints.
Mix, and ſet it aſide in a covered veſſel for an hour; then pour off the liquor, which keep in a cloſe veſſel.

Edinb.

Take half a pound of freſh-burnt quicklime, put it into an earthen veſſel, and gradually ſprinkle on it four ounces of water, keeping the veſſel ſhut while the lime grows hot and falls into powder. Then pour on it twelve pounds of water, and mix the lime thoroughly with the water by ſtirring. After the lime has ſubſided renew the ſtirring; and let this be done about ten times, always keeping the veſſel ſhut (during the ebullition), that the acceſs of the air may be the more effectually prevented. Laſtly, let the water be filtered thro' paper placed in a funnel cloſe ſhut at its top; and it muſt be kept in very cloſe veſſels.

The reaſon of adding the water by degrees to the lime is, that when poured on at once, it reduces the external part to a kind of muddy ſubſtance, or ſoft paſte, which in ſome meaſure defends the internal part from being acted on by the water. It does not appear that the different proportions of water in the two above preſcriptions occaſion any ſenſible difference in the ſtrength of the product; the quicklime is far from yielding all its ſoluble parts to either proportion; the remainder giving a ſtrong impregnation to many freſh quantities of water, though not ſo ſtrong as to the firſt. The caution of keeping the water in cloſe-ſtopt veſſels ought to be ſtrictly attended to; for in open ones the calcareous matter diſſolved in the liquor ſoon begins to ſeparate, and forms a white cruſt on the ſurface. This cruſt is not of a ſaline matter, as ſome have imagined; but an inſipid earth, no longer miſcible with watery liquors. The theory of the production of this earth will be eaſily underſtood from what we have ſaid on the article Fixed Air. The ſeparation firſt takes place at the ſurface, as being the part immediately applied to the common air; as long as the cruſt remains entire, the cloſeneſs of its texture ſo excludes the air, that the reſt of the matter ſtill remains impregnated with lime; but when this pellicle is broken by any means, it ſoon ſinks to the bottom, and expoſes a new ſurface for the ſeparation of the lime. In this way a ſucceſſion of cruſts and precipitations are formed, till the whole of the once cauſtic and ſoluble quicklime is now found at the bottom of the veſſel in the ſtate of a mild inſoluble earth, leaving the water perfectly inſipid.

The formation of theſe cruſts, and their ſucceſſive precipitations, are owing to the abſorption of fixed air, or aerial acid, from the atmoſphere: and the mild inſoluble

ſtate

state of these precipitations is also owing to the same cause.

The distilled water recommended by the London college is certainly preferable to common fountain water; the purity of which can rarely be depended on.

Lime-water has been thought of great service in scrophulous complaints; but perhaps on no very good foundation. It has also been used both internally and externally for various affections of the skin. It seems to be very considerably astringent, and has been useful in some kinds of alvine fluxes, in diabetes, leucorrhœa, and in sundry other disorders proceeding from a laxity or debility of the solids.

Its more common use is in affections of the stomach accompanied with acidity and flatulence. For which last complaint, the mild, or aerated earths, are less proper on account of the separation of air on their meeting with an acid in the stomach. Lime-water is also capable of dissolving mucus; and may therefore be used where a redundance of the intestinal mucus affords a nidus for worms, or gives rise to other complaints. It has also been found, that lime water injected into the anus immediately kills ascarides. The lithontriptic powers of lime-water seem at present to be much doubted. Lime-water is given in doses proportioned to the nature of the complaints; in some cases, as in diabetes, it may be given in divided portions to the extent of two quarts a-day. It is used externally for washing what are called *foul* or *ill-conditioned ulcers;* it is also injected into the vagina and other parts affected with preternatural discharges from laxity.

The use of lime-water in scurvy is very doubtful.

ACETUM SCILLÆ.

Lond.

Vinegar of Squills.

Take of

Squills, dried, one pound;
Vinegar, six pints:
Proof-spirit, half a pint.

Macerate the squills in the vinegar, with a gentle heat, in a glass vessel, for four-and twenty hours; then press out the liquor, and set it by that the feces may subside: lastly, pour off the liquor, and add to it the spirit.

ACETUM SCILLITICUM.

Edinb.

Squill Vinegar.

Take of

Dried root of squills, two ounces;
Distilled vinegar, two pounds and a half;
Rectified spirit of wine, three ounces.

Macerate the squills with the vinegar eight days; then press out the vinegar, to which add the spirit; and when the feces have subsided, pour off the clear liquor.

Vinegar of squills is a medicine of great antiquity; we find in a treatise attributed to Galen, an account of its preparation, and of many particular virtues then ascribed to it. It is a very powerful stimulant, aperient, and what is called an attenuant of tenacious juices: and hence it is frequently used, with great success, in disorders of the breast occasioned by a load of thick phlegm, and for promoting urine in hydropic cases. The dose of this medicine is from a dram to half an ounce: where crudities abound in the first passages, it may be given at first in a larger dose, to evacuate them by vomiting. It is most conve-

niently exhibited along with cinnamon, or other agreeable aromatic waters, which prevent the nausea it would otherwise, even in small doses, be apt to occasion.

ACETUM AROMATICUM.

Suec.

Aromatic Vinegar.

Take of

Tops of Rosemary,
Leaves of sage, each four ounces;
Flowers of lavender, two ounces;
Cloves, two drams;
Vinegar, eight pounds.

Macerate for four days, express the liquor, and strain it.

This may be considered as an elegant improvement of what had formerly a place in the foreign pharmacopœias, under the title of *Acetum prophylacticum*, which contained not only the present articles, but also a confused farrago of others, as wormwood, rue, garlic, cinnamon, &c.

It is said, that during the plague at Marseilles, four persons, by the use of the acetum prophylacticum as a preservative, attended unhurt, multitudes of those who were infected; that under colour of those services, they robbed both the sick and the dead: and that one of them being afterwards apprehended, saved himself from the gallows by discovering the remedy. The preparation was hence called *Vinaigre des quatre voleurs*; "The vinegar of the "four thieves." It is not to be doubted, that vinegar, impregnated with antiseptic vegetables, will contribute greatly to prevent the effects of contagious air. And in the present acetum aromaticum, we have a stronger and better impregnation, than from the numerous articles which were before employed. We are far, however, from imagining that it will be able to counteract the contagion of the plague: but it may on different occasions be more powerful than vinegar in its simple state, for impregnating with antiseptic vapours the chambers of the sick.

ACETUM ROSACEUM.

Suec.

Vinegar of Roses.

Take of

The flowers of red roses dried, any quantity; add to them twelve times their weight of vinegar.

Macerate for four days, and strain through paper.

This has been chiefly used for embrocating the head and temples in some kinds of headach, &c. in which it has now and then been of service. It has also been used for certain cases of ophthalmia. But before it can be applied to the eyes, it will in general require to be diluted with water.

ACETUM SATURNINUM.

Suec.

Vinegar of Lead.

Take of

Litharge, triturated, half a pound;
Vinegar, two pounds.

Digest them together frequently, stirring the mixture with a wooden rod, till the colour of blue paper be not changed by the vinegar; preserve for use the clear liquor which is above the sediment.

This liquor is of the same nature with solutions of saccharum saturni, or cerussa acetata, as it is now called. It is only used externally, against cutaneous eruptions, redness, inflammations, &c. But even in these cases some think it is not void of danger: and it is alleged,

leged, that there are examples of its continued use having occasioned sundry ill consequences. Of this, however, we are very doubtful. But by means of the cerussa acetata every purpose to be answered by this may be accomplished. This liquor differs only in the proportions from the aqua lythargyri acetati of the London pharmacopœia.

ACETUM COLCHICI.

Ross.

Vinegar of Colchicum.

Take of

The recent root of colchicum cut into slices, one ounce;

Vinegar, one pound.

Macerate with a gentle heat for two days: then strain after slight expression.

Although in our pharmacopœias a place be given to the oxymel and syrup of colchicum, both of which are formed from the vinegar, yet the vinegar itself is not directed to be kept in its separate state: Under this form however it may often be employed with advantage.

INFUSUM KINKINÆ.

Suec.

Infusion of Peruvian Bark.

Take of

Peruvian bark, bruised, an ounce and a half;

River water, boiling, a pound and a half.

Digest for two hours, shaking the vessel frequently; then strain the liquor with expression.

The Peruvian bark, as we have already had occasion to observe, gives out its medical properties to water not less readily in the way of infusion than of decoction. And in the former, the extractive matter is even more in a state of solution. An infusion, however, not only more elegant, but stronger than the present, might be obtained, from employing cold instead of boiling water, and from continuing the maceration for a greater length of time. But in whatever manner it be formed, an infusion will often sit on the stomach, when the bark either in substance or decoction cannot be retained.

AQUA PICEA.

Suec.

Tar-Water.

Take of

Tar, two pounds;

Water, one gallon;

Stir them strongly together with a wooden rod; and after standing to settle for twelve hours, pour off the water for use.

Tar-water has lately been recommended to the world as a certain and safe medicine in almost all diseases; a slow yet effectual alteration in cachexies, scurvies, chlorotic, hysterical, hypochondriacal, and other chronical complaints; and a sudden remedy in acute distempers which demand immediate relief, as pleurisies, peripneumonies, the small-pox, and all kinds of fevers in general. The medicine, though certainly far inferior to the character that has been given of it, is doubtless in many cases of considerable utility: it sensibly raises the pulse; and occasions some considerable evacuation, generally by perspiration or urine, though sometimes by stool or vomit. Hence it is supposed to act by increasing the vis vitæ, and enabling nature to expel the morbific humours.

We shall here insert, from the first public recommender of this liquor (Bishop Berkeley), some observations on the manner of using it. "Tar-water, when right, is not "paler than French, nor deeper "coloured than Spanish white wine, "and

"and full as clear; if there be not "a spirit very sensibly perceived in "drinking, you may conclude the "tar-water is not good. It may "be drank either cold or warm. In "colics, I take it to be best warm. "As to the quantity, in common "chronical indispositions, a pint "a-day may suffice, taken on an "empty stomach, at two or four "times, to wit, night and morn-"ing, and about two hours after "dinner and breakfast: more may "be taken by stronger stomachs. "But those who labour under great "and inveterate maladies, must "drink a greater quantity, at least "a quart every twenty-four hours. "All of this class must have much "patience and perseverance in the "use of this, as well as of all other "medicines, which, though sure, "must yet in the nature of things "be slow in the cure of inveterate "chronical disorders. In acute ca-"ses, fevers of all kinds, it must "be drank in bed warm, and in "great quantity (the fever still en-"abling the patient to drink), per-"haps a pint every hour, which I "have known to work surprising "cures. But it works so quick, "and gives such spirits, that the "patients often think themselves "cured before the fever has quite "left them."

Notwithstanding these encomi-ums, tar water seems to be fast lo-sing its reputation. It is not pro-bable that water can take up any of the more active principles of the tar; and it would perhaps be more convenient to separate its acid by distillation, and mix it with water occasionally: for it is pretty cer-tain, that the water can only take up the acid of the tar, perhaps charged with a very small quantity of oily matter in the state of an acid soap.

DECOCTUM CATECHU.

Gen.

Decoction of Catechu.

Take of

Catechu, three drams;
Spring-water, two pounds.
Boil it to one pound; and add to the strained liquor,
Syrup of quinces, three ounces.

This decoction may be consider-ed as nearly similar to the decoctum japonicum, and decoctum terræ ja-ponicæ of the former editions of our pharmacopœia: and like these it will be found a very agreeable and useful medicine in fluxes that are not critical or symptomatic, and in a weak lax state of the intestines. A spoonful or two may be taken every hour, or oftener: thus managed, it produces much better effects than if larger doses are given at once. But for extracting the powers of the ca-techu, boiling is not requisite. By simple infusion in warm water, all its active parts are readily and com-pletely dissolved. It may in this manner also be readily united with cinnamon or other aromatics. And an infusum japonicum is, we think, a formula justly intitled to a place in our pharmacopœias.

CHAP.

CHAP. XX.

VINA MEDICATA.

MEDICATED WINES.

THE original intention of medicated wines was, that medicines, which were to be continued for a length of time, might be taken in the moſt familiar and agreeable form; by this means a courſe of remedies was complied with, notwithſtanding the repugnance and averſion which the ſick often manifeſt to thoſe directly furniſhed from the ſhops; and hence the inferior ſort of people had their medicated ales. Nevertheleſs, as vinous liquors excellently extract the virtues of ſeveral ſimples, and are not ill fitted for keeping, they have been employed as officinal menſtrua alſo; and ſubſtances of the greateſt efficacy are truſted in this form. As compounds of water and inflammable ſpirit, they take up ſuch parts of vegetables and animals as are ſoluble in thoſe liquors; though moſt of them abound at the ſame time with a mucilaginous or viſcous ſubſtance, which renders them leſs effectual menſtrua than purer mixtures of water and ſpirit. They contain likewiſe a ſubtile acid, which ſomewhat further obſtructs their action on certain vegetable and animal matters; but enables them, in proportion to its quantity, to diſſolve ſome bodies of the metallic kind, and thus impregnate themſelves with the corroborating virtues of ſteel, the alterative and emetic powers of antimony, and the noxious qualities of lead.

To all the medicated wines, after they have been ſtrained, you may add about one twentieth their quantity of proof-ſpirit, to preſerve them from fermentation. They may be conveniently kept in the ſame kind of glaſs bottles that wines generally are for common uſes, which ſhould likewiſe be corked with the ſame care.

VINUM ALOES.

Lond.

Wine of Aloes.

Take of

Socotorine aloes, eight ounces;
White canella, commonly called Winter's bark, two ounces;
Spaniſh white-wine, ſix pints;
Proof-ſpirit, two pints.

Powder the aloes and white canella ſeparately; when mixed, pour on them the wine and ſpirit: afterwards digeſt for fourteen days, now and then ſhaking them; laſtly, ſtrain.

It will not be amiſs to mix white ſand, cleanſed from impurities, with the powder, in order to pre-

vent the moistened aloes from getting into lumps.

VINUM ALOETICUM, vulgo TINCTURA SACRA.

Edin.

Aloetic wine, or *Sacred Tincture.*

Take of
- Socotorine aloes, one ounce;
- Lesser cardamom seeds,
- Ginger, each one dram;
- Spanish white wine, two pounds.

Digest for seven days, stirring now and then, and afterwards strain.

This medicine has long been in great esteem not only as a cathartic, but likewise as a stimulus; the wine dissolving all that part of the aloes in which these qualities reside, a portion only of the less active resinous matter being left. The aromatic ingredients are added to warm the medicine, and somewhat alleviate the ill-flavour of the aloes: canella alba, or cloves, are said, among numerous materials that have been tried, to answer this end the most successfully; hence the introduction of the former of these into the formula of the London college.

The *tinctura sacra* appears from long experience to be a medicine of excellent service in languid, phlegmatic habits, not only for cleansing the primæ viæ, but likewise for stimulating the solids, warming the habit, promoting or exciting the uterine purgations, and the hæmorroidal flux. The dose, as a purgative, is from one to two ounces, or more. It may be introduced into the habit, so as to be productive of excellent effects, as an alterant, by giving it in small doses, at proper intervals: thus managed, it does not for a considerable time operate remarkably by stool; but at length proves purgative, and occasions a lax habit of much longer continuance than that produced by the other common cathartics.

VINUM AMARUM.

Edin.

Bitter Wine.

Take of
- Root of gentian, half an ounce;
- Peruvian bark, one ounce;
- Seville orange-peel, dried, two drams;
- Canella alba, one dram;
- Proof-spirit, four ounces;
- Spanish white-wine, two pounds and a half.

First pour on the spirit, and after twenty four hours add the wine; then macerate for three days, and strain.

This wine is intended to supply the place of the *Tinctura ad stomachicos*, as it was formerly called. The wine is a menstruum fully capable of extracting the active powers of the different ingredients; and it supplies us with a very useful and elegant stomachic medicine, answering the purposes intended, much better than the celebrated elixir of Van Helmont, and other unchemical and uncertain preparations, which had formerly a place in our pharmacopœias.

VINUM ANTIMONII.

Lond.

Wine of Antimony.

Take of
- Vitrified antimony, powdered, one ounce;
- Spanish white wine, a pint and an half.

Digest for twelve days, frequently shaking the vessel, and filter the wine through paper.

VINUM ANTIMONIALE.

Edin.

Antimonial Wine.

Take

Take of
Glaſs of antimony, finely powdered, one ounce;
Spaniſh white-wine, fifteen ounces.
Macerate for three days, ſtirring them now and then, and afterwards ſtrain the liquor through paper.

However carefully the ſettling and decantation are performed, the filtration of the wine through paper appears to be neceſſary, leſt ſome of the finer parts of the glaſs ſhould chance to remain ſuſpended in ſubſtance. It is not here, as in moſt other wines and tinctures, where the matter left undiſſolved by the menſtruum is of little conſequence: the antimonial glaſs, after the action of the wine, continues as virulent as ever, and capable of impregnating freſh parcels of the liquor as ſtrongly as the firſt, and this, in appearance, inexhauſtibly. After thirty repeated infuſions, it has been found ſcarce ſenſibly diminiſhed in weight.

The antimonial wine poſſeſſes the whole virues of that mineral, and may be ſo doſed and managed as to perform all that can be effected by any antimonial preparation; with this advantage, that as the active part of the antimony is here already diſſolved and rendered miſcible with the animal fluids, its operation is more certain. Given from ten to fifty or ſixty drops, it generally acts as an alterative and diaphoretic; in larger doſes, as a diuretic and cathartic; while three or four drams prove for the moſt part violently emetic. It has been chiefly uſed with this laſt intention, in ſome maniacal and apoplectic caſes; and hence it gained the name of emetic wine.

The quantity of the reguline part muſt, however, vary according to the proportions of the acid matter in different wines, and the operation of the medicine muſt be thereby leſs certain in degree; the vitrum is preferable to the crocus for making this preparation. See the different preparations of Antimony.

VINUM ANTIMONII TARTARISATI.

Lond.

Wine of tartariſed Antimony.

Take of
Tartariſed antimony, two ſcruples;
Boiling diſtilled water, two ounces;
Spaniſh white wine, eight ounces;
Diſſolve the tartariſed antimony in the boiling diſtilled water, and add the wine.

VINUM e TARTARO ANTIMONIALI.

Edin.

Wine of antimonial Tartar.

Take of
Antimonial tartar, commonly called Emetic tartar, twenty four grains; and diſſolve it in a pound of Spaniſh white-wine.

Watery ſolutions of emetic tartar, on ſtanding, precipitate a part which is leſs completely in a ſaline ſtate; by this means, and eſpecially if the ſolution be not ſhaken before uſing it, the doſe of that medicine is ſomewhat ambiguous: in the above formula, the acid matter of the wine increaſes the ſaline ſtate of the antimony, and therefore its ſolubility, whereby the operation of the medicine is more certain, and in many caſes more powerful. From the certainty of its effects, this preparation might be very convenient in large hoſpitals or armies, where great numbers of the ſick, and incacurate nurſing, frequently occaſion an uncertain or dangerous practice.

In the formula employed by the Edinburgh college, each ounce of the wine contains two grains of the tartarized antimony; but in that of the London college, each ounce of the menstruum contains four grains: hence, while an ounce of the one may be employed for exciting full vomiting, the same quantity of the other would be too strong a dose. It is much to be regretted that in articles of this active nature, the proportions employed by the two colleges should differ so considerably: and it would perhaps have been better, had the London college adopted the proportions employed by that of Edinburgh, as they have followed them in adopting this formula.

VINUM FERRI.

Lond.

Wine of iron.

Take of

Filings of iron, four ounces;

Spanish white wine, four pints.

Digest for a month, often shaking the vessel, and then strain.

This formula of the London pharmacopœia is now not only simplified, but improved, when compared with their former vinum chalybeatum: for the cinnamon and other articles which were then conjoined with the iron, were certainly rather prejudicial than otherwise; but at the same time, Rhenish wine, formerly employed, is perhaps to be considered as a better menstruum than the Spanish wine now directed. It may still, however, be justly considered as a good chalybeate; and we think the Edinburgh college have done wrong in rejecting the formula from their pharmacopœia.

By the London college it was formerly prepared by maceration, without heat; now, however, they direct digestion for the space of a month. Some have objected to the use of heat, that it impregnated the wine more strongly with the metal, and thus rendered it more unpleasant to the taste: but if this was the only inconvenience, the remedy would be easy, diluting it with more wine. Heat has another effect, much less desireable, and which art cannot remedy; making a disagreeable alteration in the quality of the wine itself: hence it is necessary that it should be very moderate.

Steel wine is a very useful preparation of this metal, and frequently exhibited in chlorotic and other indispositions where chalybeates are proper. Boerhaave recommends it as one of the noblest medicines he was acquainted with, for promoting that power in the body by which blood is made, when weakened by a bare debility of the over-relaxed solids, and an indolent, cold, aqueous indisposition of the juices: for in this case, says he, no virtue of any vegetable or animal substance, no diet, nor regimen, can effect that which is effected by iron: but it proves hurtful where the vital powers are already too strong, whether this proceeds from the fluids or the solids. The dose is from a dram to half an ounce; which may be repeated two or three times a-day.

Some direct solutions of iron, made in wine or other vegetable acids, to be evaporated to the consistence of an extract, under the title of Extractum martis. These preparations have no advantage, in point of virtue, above the common chalybeates; though in some forms, that of pills in particular, they may be rather more commodiously exhibited than most of the officinal chalybeates of equal efficacy. They may be made into pills by themselves, and are tenacious enough to

reduce

reduce other ſubſtances into that form.

VINUM IPECACUANHÆ.
Lond.
Wine of Ipecacuanha.

Take of
The root of ipecacuanha, bruiſed, two ounces;
Spaniſh white wine, two pints.
Digeſt for ten days, and ſtrain.

VINUM, vulgo TINCTURA IPECACUANHÆ.
Edinb.
Wine, or Tincture of Ipecacuanha.

Take of
Ipecacuanha, in powder, one ounce;
Spaniſh white wine, fifteen ounces.
After three days maceration, let the tincture be filtrated for uſe.

Both theſe wines are very mild and ſafe emetics, and equally ſerviceable, in dyſenteries alſo, with the ipecacuanha in ſubſtance; this root yielding nearly all its virtues to the Spaniſh white wine, here ordered, as it does a good ſhare of them even to aqueous liquors. The common doſe is an ounce, more or leſs, according to the age and ſtrength of the patient. The college of Edinburgh added formerly a ſcruple of cochineal, which imparts a fine red colour to the liquor: this article is now omitted, on a complaint, that the red colour of the matters evacuated, ſometimes alarmed the patient, as if it proceeded from a diſcharge of blood.

VINUM MILLEPEDAUM.
Edinb.
Wine of Millepedes.

Take of
Live millepedes, bruiſed, one ounce;
Rheniſh wine, eight ounces.
Infuſe them together for twelve hours, and afterwards preſs the liquor through a ſtrainer.

This wine has been commended as an admirable cleanſer of all the viſcera, yielding to nothing in the jaundice, and obſtructions of the kidneys or urinary paſſages, of excellent ſervice in almoſt all chronical diſtempers, even in ſcrophulous and ſtrumous ſwellings, and in defluxions of rheum upon the eyes. But thoſe who expected theſe extraordinary virtues from it, have often been deceived; and at preſent there are few who have any great dependence on it: and hence it is omitted by the London college, probably without any loſs. It is directed to be given from half an ounce to two ounces.

VINUM RHABARBARI.
Lond.
Wine of Rhubarb.

Take of
Sliced rhubarb, two ounces and an half;
Leſſer cardamom-ſeeds, bruiſed and huſked, half an ounce;
Saffron, two drams;
Spaniſh white wine, two pints;
Proof ſpirit, eight ounces.
Digeſt for ten days, and ſtrain.

VINUM RHEI.
Edin.
Rhubarb-Wine.

Take of
Rhubarb, two ounces;
Canella alba, one dram;
Proof ſpirit, two ounces;
Spaniſh white wine, fifteen ounces.
Macerate for ſeven days, and ſtrain.

By aſſiſting the ſolvent power of the menſtruum, the proof-ſpirit in the above formulæ is a very uſeful addition. This is a warm, cor-

dial, laxative medicine. It is used chiefly in weakness of the stomach and bowels, and some kinds of looseness, for evacuating the offending matter, and strengthening the tone of the viscera. It may be given from half a spoonful to three or four spoonfuls or more, according to the circumstances of the disorder, and the purposes it is intended to answer.

VINUM NICOTIANÆ.

Tobacco-wine.

Take of

The dried leaves of the best Virginian tobacco, one ounce;
Spanish white wine, one pound.

Macerate for four days, and then strain the liquor.

We have already, under the article Nicotiana in the Materia Medica, offered some observations on its late introduction into practice by Dr Fowler, as a very useful remedy in the cure of dropsies and dysuries. From his treatise on that subject the present formula is taken; and we may observe, that while in practice we have frequently experienced from the tobacco those good effects for which Dr Fowler recommends it, we are inclined to give the present formula the preference to every other which he has proposed. It seems to extract more fully the active principles of the tobacco than either water or spirit taken separately.

VINUM SCILLITICUM.

Suec.

Squill-wine.

Take of

Dried squill, sliced, one ounce;
Ginger, one dram;
French white wine, two pounds.

Macerate for three days, and then strain.

By the wine employed as a menstruum, the active properties of the squills may be readily extracted; and in some cases at least the present formula may justly be considered as intitled to a preference over either the acetum or oxymel scillæ, which have a place in our pharmacopœias. The ginger here added to the squills operates as an useful corrigent; and on this account the present formula is preferable to the vinum scilliticum of some other pharmacopœias, where the squills alone are used: For it is chiefly used in those cases where it is intended that the squills should exert their effects, not on the alimentary canal, but on the kidneys or other excretions.

VINUM ZEDOARIÆ.

Dan.

Zedoary Wine.

Take of

The root of zedoary, gently bruised, two pounds;
Spirit of wine, eight pounds.

Let them be macerated for a month; then add

Spring water, eight pounds.

Distil from thence twelve pounds.

Though this formula has the name of a wine, yet it is in reality a distilled spirit, nothing from the zedoary but a portion of its essential oil being united with the ardent spirit: and we are inclined to think, that the active powers of this article, both as depending on aroma and bitterness, might be better obtained by a simple infusion in Spanish white-wine.

CHAP. XXI.

TINCTURÆ.

TINCTURES.

RECTIFIED ſpirit of wine is the direct menſtruum of the reſins and eſſential oils of vegetables, and totally extracts theſe active principles from ſundry vegetable matters, which yield them to water either not at all, or only in part. It diſſolves likewiſe the ſweet ſaccharine matter of vegetables; and generally thoſe parts of animal bodies, in which their peculiar ſmell and taſte reſide.

The virtues of many vegetables are extracted almoſt equally by water and rectified ſpirit; but in the watery and ſpirituous tinctures of them there is this difference, that the active parts in the watery extractions are blended with a large proportion of inert gummy matter, on which their ſolubility in this menſtruum in great meaſure depends, while rectified ſpirit extracts them almoſt pure from gum. Hence when the ſpirituous tinctures are mixed with watery liquors, a part of what the ſpirit had taken up from the ſubject generally ſeparates and ſubſides, on account of its having been freed from that matter which, being blended with it in the original vegetable, made it ſoluble in water. This, however, is not univerſal; for the active parts of ſome vegetables when extracted by rectified ſpirit, are not precipitated by water, being almoſt equally ſoluble in both menſtrua.

Rectified ſpirit may be tinged by vegetables of all colours, except blue: the leaves of plants in general, which give out but little of their natural colour to watery liquors, communicate to ſpirit the whole of their green tincture, which for the moſt part proves elegant, though not very durable.

Fixed alkaline ſalts deepen the colour of ſpirituous tinctures; and hence they have been ſuppoſed to promote the diſſolving power of the menſtruum, though this does not appear from experience: in the trials that have been made to determine this affair, no more was found to be taken up in the deep-coloured tinctures than in the paler ones, and often not ſo much: if the alkali be added after the extraction of the tincture, it will heighten the colour as much as when mixed with the ingredients at firſt. Nor is the addition of theſe ſalts in making tinctures, uſeleſs only, but likewiſe prejudicial, as they in general injure the flavour of aromatics, and ſupperadd

peradd a quality, sometimes contrary to the intention of the medicine. Volatile alkaline salts, in many cases, promote the action of the spirits. Acids generally weaken it; unless when the acid has been previously combined with the vinous spirit into a compound of new qualities, called *dulcified spirit*.

TINCTURA ABSINTHII.

Edin.

Tincture of Wormwood.

Take of

The flowering tops of wormwood, properly dried, four ounces;

Rectified spirit of wine, two pounds;

Macerate for two days; then press out the spirit, and pour it on Two ounces of wormwood.

Macerate again for four days; then press the tincture through a cloth, and afterwards strain it through paper.

The aromatic parts of wormwood are more especially found in the flowering tops, and its bitterness in the leaves: but as the latter are replete with a mucilaginous matter, which might impede the action of the menstruum on the aromatic parts in this very elegant formula, the flowering tops are infused first, and their tincture made to extract the bitter parts of the leaves and stalks. This preparation may therefore be considered as containing the whole virtues of the plant.

In the tincture of wormwood we have one of the strongest of the vegetable bitters. It is sometimes used as an anthelmintic, and still more frequently in stomach ailments: But to most people it is a very disagreeable medicine.

TINCTURA ALOES.

Lond.

Tincture of Aloes.

Take of

Socotorine aloes, powdered, half an ounce;

Extract of liquorice, an ounce and an half;

Distilled water,

Proof-spirit, of each eight ounces.

Digest in a sand-bath, now and then shaking the vessel, until the extract be dissolved, and then strain.

In this simple tincture, all the active parts of the aloes, whether of a gummy or resinous nature, are suspended in the menstruum. The extract of liquorice serves both to promote the suspension and to cover the taste of the aloes; and in these cases where we wish for the operation of the aloes alone, without the aid either of an adjuvans or corrigens, this is perhaps one of the best formulæ under which aloes can be exhibited in a fluid state.

TINCTURA ALOES COMPOSITA.

Lond.

Compound Tincture of Aloes.

Take of

Tincture of myrrh, two pints;

Saffron,

Socotorine aloes, of each three ounces.

Digest for eight days, and strain.

ELIXIR ALOES, vulgo PROPRIETATIS.

Edinb.

Elixir of Aloes, commonly called *Elixir Proprietatis*.

Take of

Myrrh in powder, two ounces;

Socotorine aloes, an ounce and a half;

English

English saffron, one ounce;
Rectified spirit of wine,
Proof-spirit, of each one pound.

Digest the myrrh with the spirit for the space of four days; then add the aloes in powder, and the saffron; continue the digestion for two days longer, suffer the feces to subside, and pour off the clear elixir.

These two formulæ, though the mode of preparation be somewhat varied, do not materially differ from each other; and both may be considered as being the *elixir proprietatis* of Paracelsus, improved with regard to the manner of preparation. The myrrh, saffron, and aloes, have been usually directed to be digested in the spirit together: by this method, the menstruum soon loads itself with the latter, so as scarcely to take up any of the myrrh; while a tincture, extracted first from the myrrh, readily dissolves a large quantity of the others. The alkaline salt, commonly ordered in these preparations with a view to promote the dissolution of the myrrh, we have already observed to be useless; and accordingly it is now omitted. Instead of employing the rectified spirit alone, the Edinburgh college have used an equal portion of proof-spirit, which is not only a more complete menstruum, but also renders the medicine less heating.

This medicine is highly recommended, and not undeservedly, as a warm stimulant and aperient. It strengthens the stomach and other viscera, cleanses the first passages from tenacious phlegm, and promotes the natural secretions in general. Its continued use has frequently done much service in cachectic and icteric cases, uterine obstructions, and other similar disorders; particularly in cold, pale, phlegmatic habits. Where the patient is of a hot, bilious constitution, and florid complexion, this warm stimulating medicine is less proper, and sometimes prejudicial. The dose may be from twenty drops to a tea-spoonful or more, two or three times a-day, according to the purposes which it is intended to answer.

ELIXIR ALOES sive PROPRIETATIS VITRIOLICUM.

Edin.

Vitriolic Elixir of Aloes, or *Proprietatis.*

Take of
Myrrh,
Socotorine aloes, of each an ounce and a half;
English saffron, one ounce;
Dulcified spirit of vitriol, one pound.

Digest the myrrh with the spirit for four days, in a close vessel; then add the saffron and aloes.

Digest again four days; and when the feces have subsided, pour off the elixir.

The Edinburgh College have reformed this preparation considerably; and especially by directing the myrrh to be digested first, for the same reasons as were observed on the preceding article. Here the dulcified spirit of vitriol is very judiciously substituted for the spirit of sulphur, ordered in other books of pharmacy to be added to the foregoing preparation; for that strong acid precipitates from the liquor great part of what it had before taken up from the other ingredients; whereas, when the acid is previously combined with the vinous spirit, and thereby dulcified, as it is called, it does not impede its dissolving power This elixir possesses the general virtues of the preceding, and, is, in virtue

virtue of the menſtruum, preferred to it in hot conſtitutions, and weakneſſes of the ſtomach.

TINCTURA AROMATICA.

Edin.

Aromatic Tincture.

Take of
- Cinnamon, ſix drams;
- Leſſer cardamom-ſeeds, one ounce;
- Garden-angelica root, three drams;
- Long-pepper, two drams;
- Proof-ſpirit, two pounds and an half.

Macerate for ſeven days, and filter the tincture.

This preparation is improved from the preceding editions by the omiſſion of ſome articles, either ſuperfluous or foreign to the intention; galangal, gentian, zedoary, bay-berries, and calamus aromaticus. As now reformed, it is a ſufficiently elegant warm aromatic.

This very warm aromatic is too hot to be given without dilution. A tea-ſpoonful or two may be taken in wine, or any other convenient vehicle, in languors, weakneſs of the ſtomach, flatulencies, and other ſimilar complaints; and in theſe caſes it is often employed with advantage.

TINCTURA ASÆ FŒTIDÆ.

Lond.

Tincture of Aſafœtida.

Take of
- Aſafœtida, four ounces;
- Rectified ſpirit of wine, two pints.

Digeſt with a gentle heat for ſix days; and ſtrain.

TINCTURA FŒTIDA.

Edin.

Fetid Tincture.

Take of
- Aſafœtida, two ounces;
- Vinous ſpirit of ſal ammoniac, one pound.

Macerate for ſix days in a cloſe ſhut veſſel, and ſtrain.

Of theſe two formulæ, the laſt is perhaps moſt generally uſeful: The vinous ſpirit of ſal ammoniac is not only a more powerful menſtruum than the rectified ſpirit of wine, but alſo coincides with the general virtues of the remedy.

This tincture poſſeſſes the virtues of the aſafœtida itſelf; and may be given from ten drops to fifty or ſixty. It was firſt propoſed to be made with proof-ſpirit; this diſſolves more of the aſafœtida than a rectified one; but the tincture proves turbid; and therefore rectified ſpirit, which extracts a tranſparent one, is very juſtly preferred where ardent ſpirit is to be employed: and with this menſtruum we can at leaſt exhibit the aſafœtida in a liquid form to a greater extent.

TINCTURA BALSAMI PERUVIANI.

Lond.

Tincture of Balſam of Peru.

Take of
- Balſam of Peru, four ounces;
- Rectified ſpirit of wine, one pint.

Digeſt until the balſam be diſſolved.

The whole of the Peruvian balſam is diſſolved by ſpirit of wine: this therefore may be conſidered as a good method of freeing it from its impurities; while at the ſame time it is thus reduced to a ſtate under which it may be readily exhibited: but at preſent it is very little employed, unleſs in compoſition, either under this or any other form.

TINC-

TINCTURA BALSAMI TOLUTANI.

Lond.

Tincture of Balsam of Tolu.

Take of
- Balsam of Tolu, one ounce and an half;
- Rectified spirit of wine, one pint,

Digest until the balsam be dissolved, and strain.

TINCTURA TOLUTANA.

Edin.

Tincture of Balsam of Tolu.

Take of
- Balsam of Tolu, an ounce and an half;
- Rectified spirit of wine, one pound.

Digest until the balsam be dissolved; and then strain the tincture.

This solution of balsam of Tolu possesses all the virtues of the balsam itself. It may be taken internally, with the several intentions for which that valuable balsam is proper, to the quantity of a tea-spoonful or two, in any convenient vehicle. Mixed with the plain syrup of sugar, it forms an elegant balsamic syrup.

TINCTURA BENZOES COMPOSITA.

Lond.

Compound tincture of benzoine.

Take of
- Benzoine, three ounces;
- Storax strained, two ounces;
- Balsam of Tolu, one ounce;
- Socotorine aloes, half an ounce;
- Rectified spirit of wine, two pints.

Digest with a gentle heat for three days, and strain.

BALSAMUM TRAUMATICUM.

Edin.

Traumatic Balsam.

Take of
- Benzoine, three ounces;
- Balsam of Peru, two ounces;
- Hepatic aloes, half an ounce;
- Rectified spirit of wine, two pounds.

Digest them in a sand heat, for the space of ten days, and then strain the balsam.

Although the London college have changed the name of this composition, yet they have made very little alteration on the formula which, in their last edition, had the name of *Traumatic balsam*; a name which it still retains in the Edinburgh pharmacopœia; and both may be considered as elegant contractions of some very complicated compositions, which were celebrated under different names; such as Baume de Commandeur, Wade's Balsam, Friar's balsam, Jesuit's drops, &c. These, in general, consisted of a confused farrago of discordant substances. They, however, derived considerable activity from the benzoine and aloes; and every thing to be expected from them may readily be obtained from the present formulæ.

The compound tincture of benzoine, or traumatic balsam, stands highly recommended, externally, for cleansing and healing wounds and ulcers, for discusing cold tumours, allaying gouty, rheumatic, and other old pains and aches; and likewise internally, for warming and strengthening the stomach and intestines, expelling flatulencies, and relieving colic complaints. Outwardly, it is applied cold on the part with a feather; inwardly, a

few drops are taken at a time, in wine or any other convenient vehicle.

There is, however, reason to think that its virtues have been considerably over-rated; and at present it is much less employed than formerly, recourse being chiefly had to it, in cases of recent wounds, with the view of stopping hæmorrhagies, and of promoting healing by the first intention, as it is called.

TINCTURA CANTHARIDIS.

Lond.

Tincture of the Spanish Fly.

Take of
Bruised cantharides, two drams;
Cochineal, powdered, half a dram;
Proof-spirit, one pint and an half.
Digest for eight days, and strain.

Edin.

Take of
Cantharides, one dram;
Proof-spirit, one pound.
Digest for four days, and strain through paper.

These tinctures possess the whole virtues of the fly, and are the only preparations of it designed for internal use: tinctures being by far the most commodious and safe form for the exhibition of this active drug. The two tinctures are scarcely different in virtue from each other. The cochineal is used only as a colouring ingredient: the gum guaiacum, camphor, and essential oil of juniper berries, which were formerly added, however well adapted to the intentions of cure, could be of little consequence in a medicine limited to so small a dose. If any additional substances should be thought requisite for promoting the effect of the cantharides, whether as a diuretic, as a detergent in ulcerations of the urinary passages, or as a specific restringent of seminal gleets and the fluor albus, they are more advantageously joined extemporaneously to the tincture, or interposed by themselves at proper intervals. The usual dose of these tinctures, is from ten to twenty drops; which may be taken in a glass of water, or any other more agreeable liquor, twice a-day; and increased by two or three drops at a time, according to the effect.

The tincture of cantharides has of late been highly celebrated as a successful remedy in diabetic cases; and in some instances of this kind, its use has been pushed to a very considerable extent, without giving rise to any strangurious affections: But we have not found it productive of a change for the better in any of those cases of diabetes in which we have tried it.

TINCTURA CARDAMOMI.

Lond.

Tincture of Cardamom.

Take of
Lesser cardamom seeds, husked and bruised, three ounces;
Proof-spirit, two pints.
Digest for eight days, and strain.

Edinb.

Take of
Lesser cardamom-seeds, six ounces;
Proof-spirit, two pounds and a half.
Macerate for eight days, and strain through paper.

Tincture of cardamoms has been in use for a considerable time. It is a pleasant, warm cordial; and may be taken, along with any proper vehicle, from a dram to a spoonful or two.

TINC-

TINCTURA CARDAMOMI COMPOSITA.

Lond.

Compound Tincture of Cardamom.

Take of
- Leſſer cardamom ſeeds, huſked,
- Carraway-ſeeds.
- Cochineal, each, powdered, two drams;
- Cinnamon, bruiſed, half an ounce;
- Raiſins, ſtoned, four ounces;
- Proof-ſpirit, two pints.

Digeſt for fourteen days, and ſtrain.

This tincture contains ſo ſmall a proportion of cardamoms as to be hardly intitled to derive its name from that article; and from the large proportion of raiſins which it contains, the influence of the aromatics muſt be almoſt entirely prevented, while, at the ſame time from theſe it cannot be ſuppoſed to obtain any active impregnation.

TINCTURA CASCARILLÆ.

Lond.

Tincture of Caſcarilla.

Take of
- The bark of caſcarilla, powdered, four ounces;
- Proof-ſpirit, two pints.

Digeſt with a gentle heat for eight days, and ſtrain.

Proof-spirit readily extracts the active powers of the caſcarilla; and the tincture may be employed to anſwer moſt of thoſe purpoſes for which the bark itſelf is recommended: But in the cure of intermittents, it in general requires to be exhibited in ſubſtance.

TINCTURA CASTOREI.

Lond.

Tincture of Caſtor.

Take of
- Ruſſia caſtor, powdered, two ounces;
- Proof-ſpirit, two pints.

Digeſt for ten-days, and ſtrain.

Edinb.

Take of
- Ruſſia caſtor, an ounce and a half;
- Rectified ſpirit of wine, one pound;

Digeſt them with a gentle heat for ſix days, and afterwards ſtrain off the liquor.

An alkaline ſalt was formerly added in this laſt preſcription, which is here judiciouſly rejected, as being at leaſt an uſeleſs, if not prejudicial, ingredient. It has been diſputed, whether a weak or rectified ſpirit, and whether cold or warm digeſtion, are preferable for making this tincture. To determine this point, the following experiment has been mentioned. "Some fine Siberia caſtor having been infuſed in good French "brandy, without heat, for twenty "days, the tincture proved very "weak: On the ſame individual "caſtor (the magma or reſiduum "of the former tincture) the ſame "quantity of rectified ſpirit was "poured as before of brandy; and "after a few hours warm digeſtion, "a tincture was extracted much "ſtronger than the other." But this experiment is not ſatisfactory: the effects of the two menſtrua, and of heat, having been reſpectively compared in very different circumſtances.

From other trials, it appears that caſtor, macerated without heat, gives out its finer and moſt grateful parts to either ſpirit, but moſt perfectly to the rectified. That heat enables both menſtrua to extract greateſt part of its groſſer, and more nauſeous matter; and that proof-ſpirit extracts this laſt more readily than rectified.

The tincture of castor is recommended in most kinds of nervous complaints and hysteric disorders: In the latter it sometimes does service, though many have complained of its proving ineffectual. The dose is from twenty drops to forty, fifty, or more.

TINCTURA CASTOREI COMPOSITA.

Edin.

Compound Tincture of Castor.

Take of
- Russia castor, one ounce;
- Asafœtida, half an ounce;
- Vinous spirit of sal ammoniac, one pound,

Digest for six days in a close stopped phial, frequently shaking the vessel; and then strain the tincture.

This composition is a medicine of real efficacy, particularly in hysterical disorders, and the several symptoms which accompany them. The spirit here used is an excellent menstruum, both for the castor and the asafœtida, and greatly adds to their virtues.

TINCTURA CATECHU.

Lond.

Tincture of Catechu.

Take of
- Catechu, three ounces;
- Cinnamon, bruised, two ounces;
- Proof-spirit, two pints.

Digest for three days, and strain.

TINCTURA JAPONICA.

Edin.

Japonic Tincture.

Take of
- Japan earth, three ounces;
- Cinnamon, two ounces;
- Proof-spirit, two pounds and a half.

After digestion for eight days, let the tincture be passed through a strainer.

A tincture of this kind, with the addition of Peruvian bark, ambergris, and musk, to the ingredients above directed, was formerly kept in the shops. The tincture here received, is preferable for general use: where any other ingredients are required, tinctures of them may be occasionally mixed with this in extemporaneous prescription. The cinnamon is a very useful addition to the catechu, not only as it warms the stomach, &c. but likewise as it improves the roughness and astringency of the other.

This tincture is of service in all kinds of defluxions, catarrhs, looseness, uterine fluors, and other disorders, where mild astringent medicines are indicated. Two or three tea-spoonfuls may be taken every now and then in red wine, or any other proper vehicle.

TINCTURA CINNAMOMI.

Lond.

Tincture of Cinnamon.

Take of
- Cinnamon, bruised, one ounce and an half.
- Proof-spirit, one pint.

Digest for ten days, and strain.

Edin.

Take of
- Cinnamon, three ounces.
- Proof-spirit, two pounds and a half.

Macerate for eight days, and strain.

The tincture of cinnamon possesses the restringent virtues of the cinnamon, as well as its aromatic cordial ones; and in this respect it differs from the distilled waters of that spice.

TINC-

TINCTURA CINNAMOMI COMPOSITA.

Lond.

Compound Tincture of Cinnamon.

Take of

Cinnamon, bruiſed, ſix drams;
Leſſer cardamom-ſeeds, huſked, three drams;
Long pepper,
Ginger of each, in powder, two drams.
Proof-ſpirit, two pints.

Digeſt for eight days, and ſtrain.

From the different articles which this tincture contains, it muſt neceſſarily be of a more hot and fiery nature than the former, though much leſs ſtrongly impregnated with the cinnamon.

TINCTURA COLOMBÆ.

Lond.

Tincture of Colomba.

Take of

Colomba-root, powdered, two ounces and an half;
Proof-ſpirit, two pints.

Digeſt for eight days, and ſtrain.

The colomba readily yields its active qualities to the menſtruum here employed; and accordingly, under this form, it may be advantageouſly employed againſt bilious vomitings, and thoſe different ſtomach ailments, in which the colomba has been found uſeful; but where there does not occur ſome objection to its uſe in ſubſtance, that form is in general preferable to the tincture, which is now for the firſt time introduced into the London pharmacopœia.

TINCTURA CORTICIS AURANTII.

Lond.

Tincture of Orange Peel.

Take of

The freſh exterior peel of Seville oranges, three ounces;
Proof-ſpirit, two pints.

Digeſt for three days, and ſtrain.

By this menſtruum, both the bitter quality of the orange ſkins, and likewiſe their peculiar eſſential oil, is extracted: hence it may be employed for any purpoſe in medicine which theſe are capable of anſwering. It is, however, but rarely uſed; and, as well as the former, has now only for the firſt time a place in the London pharmacopœia.

TINCTURA CORTICIS PERUVIANI.

Lond.

Tincture of Peruvian Bark.

Take of

Peruvian bark, powdered, four ounces;
Proof-ſpirit, two pints.

Digeſt with a gentle heat for eight days, and ſtrain.

TINCTURA CORTICIS PERUVIANI.

Edin.

Tincture of Peruvian Bark.

Take of

Peruvian bark, four ounces;
Proof-ſpirit, two pounds and a half.

Digeſt for ten days, and ſtrain.

A medicine of this kind has been for a long time pretty much in eſteem, and uſually kept in the ſhops, though but lately received into the pharmacopœias. Some have employed highly-rectified ſpirit of wine as a menſtruum; which they have taken care fully to ſaturate, by digeſtion on a large quantity of the bark. Others have thought of aſſiſting the action of the ſpirit by the addition of a little fixed alkaline ſalt, which

which does not however, appear to be of any advantage; and others have given the preference to the vitriolic acid, which was supposed, by giving a greater consistence to the spirit, to enable it to sustain more than it would be capable of doing by itself; at the same time that the acid improves the medicine by increasing the roughness of the bark. This last tincture, and that made with rectified spirit, have their advantages; though for general use, that above directed is the most convenient of any, the proof-spirit extracting nearly all the virtues of the bark. It may be given from a teaspoonful to half an ounce, or an ounce, according to the different purposes it is intended to answer.

TINCTURA CORTICIS PERUVIANI COMPOSITA.

Lond.

Compound Tincture of Peruvian Bark.

Take of

Peruvian bark, powdered, two ounces;
Exterior peel of Seville oranges, dried, one ounce and an half;
Virginian snake-root, bruised, three drams;
Saffron, one dram,
Cochineal, powdered, two scruples;
Proof-spirit, twenty ounces.

Digest for fourteen days, and strain.

This has been for a considerable time celebrated under the title of *Huxham's tincture of bark.*

The substances here joined to the bark, in some cases, promote its efficacy in the cure of intermittents, and not unfrequently are absolutely necessary. In some ill habits, particularly where the viscera and abdominal glands are obstructed, the bark, by itself, proves unsuccessful, if not injurious; while given in conjunction with stimulating stomachic and deobstruents, it more rarely fails of the due effect. Orange-peel and Virginian snake-root are among the best additions for this purpose; to which it is thought by some necessary to join chalybeate medicines also.

As a corroborant and stomachic, it is given in doses of two to three drams; but when employed for the cure of intermittents, it must be taken to a greater extent. For this purpose, however, it is rarely employed, unless with those who are averse to the use of the bark in substance, or whose stomachs will not retain it under that form.

TINCTURA CROCI.

Edin.

Tincture of Saffron.

Take of

English saffron, one ounce;
Proof-spirit, fifteen ounces.

After digesting them for five days, let the tincture be strained through paper.

This tincture is similar in virtue to the saffron wine. A spirituous menstruum is here preferred to the wine, as a tincture drawn with the former retains its elegant colour longer, and is not apt to deposite in keeping any part of what it had taken up from the saffron. The shops have been accustomed to employ treacle water as a menstruum for saffron, with a view to the promoting its efficacy with the intention of operating as an alexipharmac; but the acid in that compound water soon destroys the colour of the tincture.

TINCTURA FERRI MURIATI.

Lond.

Tincture of muriated Iron.

Take

Take of
The ruſt of iron, half a pound;
Muriatic acid, three pounds;
Rectified ſpirit of wine, three pints.

Pour the muriatic acid on the ruſt of iron in a glaſs veſſel; and ſhake the mixture now and then during three days. Set it by that the feces may ſubſide; then pour off the liquor: evaporate this to one pint, and, when cold, add to it the vinous ſpirit.

TINCTURA MARTIS.

Edinb.

Tincture of Iron.

Take of
The ſcales of iron, purified and powdered, three ounces;
Muriatic acid, as much as is ſufficient to diſſolve the powder.

Digeſt with a gentle heat; and the powder being diſſolved, add of rectified ſpirit of wine as much as will make up of the whole liquor two pounds and a half.

Of theſe two formulæ, that of the Edinburgh college is, in our opinion, in ſeveral reſpects intitled to the preference. The ſcales are much fitter for giving a proper ſolution than the ruſt. The ſtrength of the muriatic acid is ſo variable, that the quantity is left to the judgement of the operator. If the acid be ſuperabundant, the ſolution is of a green colour; if it be fully ſaturated with the iron, it is more or leſs of a reddiſh or yellow colour; and this ſerves as a pretty accurate criterion. As the muriatic acid combines leſs intimately with rectified ſpirit than any of the foſſil acids, ſo the after-proceſs of dulcification ſcarcely, if at all, impairs the ſolvent power of the acid; though, when the dulcification happens to be more than uſually complete, a ſmall quantity of ferruginous matter is ſometimes precipitated on adding the rectified ſpirit to the ſolution. But as the rectified ſpirit increaſes the volatility of the acid, ſo if it was added at firſt, we ſhould loſe much more of the menſtruum by the heat employed during the digeſtion. When this tincture is well prepared, it is of a yellowiſh-red colour; if the acid be ſuperabundant, it is more or leſs of a greeniſh hue; and if the rectified ſpirit has been impregnated with the aſtringent matter of oak caſks, it aſſumes an inky colour.

All the tinctures of iron are no other than real ſolutions of the metal made in acids, and combined with vinous ſpirits. The tinctures here directed differ from each other only in ſtrength, the acid being the ſame in both. In our former pharmacopœias, there was a tincture from the matter which remains after the ſublimation of the martial flowers; which, though it appears to be a good one, is now expunged as ſuperfluous. Some have recommended dulcified ſpirit of nitre as a menſtruum; but though this readily diſſolves the metal, it does not keep it ſuſpended. The marine is the only acid that can be employed for this purpoſe.

Theſe tinctures are greatly preferable to the calces or croci of iron, as being not only more ſpeedy, but likewiſe more certain in their operation. The latter, in ſome caſes, paſs off through the inteſtinal tube with little effect; while the tinctures ſcarce ever fail. From ten to twenty drops of either of the tinctures may be taken two or three times a-day, in any proper vehicle; though it is ſeldom adviſable to extend the doſe of any tinctures of iron ſo far as the laſt of theſe quantities, eſpecially with the tincture in ſpirit of ſalt, which is exceedingly ſtrong of the iron.

TINCTURA FULIGINIS.

Edinb.

Tincture of Soot.

Take of

Shining wood-soot, one ounce;
Asafœtida, half an ounce;
Rectified spirit of wine,
Proof-spirit, of each half a pound.

Digest for six days, and strain.

The proof spirit is not liable to any objection here, as giving a turbid tincture; for when soot is added, whatever spirit be employed, the tincture will not prove transparent. Fuller, in his Pharmacopœia Domestica, has a medicine under the title of *Hysteric tincture*, similar to this, only with a little myrrh, which is no very material addition to asafœtida and soot. These medicines are found serviceable, not only in hysteric cases, but likewise in other nervous disorders. They may be given from a tea-spoonful to a table-spoonful twice a-day.

This medicine has by some been thought serviceable in obstructions of the menses; but its activity may be considered as depending much more on the asafœtida than on the soot.

TINCTURA GALBANI.

Lond.

Tincture of Galbanum.

Take of

Galbanum, cut into small pieces, two ounces;
Proof-spirit, two pints.

Digest with a gentle heat for eight days, and strain.

This tincture is now for the first time introduced by the London college, and may be usefully employed for answering several purposes in medicine. Galbanum is one of the strongest of the fetid gums; and although less active, yet much less disagreable than asafœtida: and under the form of tincture it may be successfully employed in cases of flatulence and hysteria, where its effects are immediately required, particularly with those who cannot bear asafœtida.

TINCTURA GENTIANÆ COMPOSITA.

Lond.

Compound tincture of Gentian.

Take of

Gentian-root, sliced and bruised, two ounces;
Exterior dried peel of Seville oranges, one ounce;
Lesser cardamom seeds, husked and bruised, half an ounce;
Proof-spirit, two pints.

Digest for eight days, and strain.

TINCTURA AMARA, *five* ELIXIR STOMACHICUM.

Edin.

Bitter Tincture, or stomachic Elixir.

Take of

Gentian-root, two ounces;
Seville orange-peel, dried, one ounce;
Canella alba, half an ounce;
Cochineal, half a dram;
Proof-spirit, two pounds and a half.

Macerate for four days, and strain through paper.

These are very elegant spirituous bitters. As the preparations are designed for keeping, lemon peel, an excellent ingredient in the watery bitter infusions, has, on account of the perishableness of its flavour, no place in these. The aromatics are here a very commodious ingredient, as in this spirituous menstruum they are free from the inconvenience with which they are attended in other liquors, of rendering them untransparent.

ELIXIR

ELIXIR GUAIACINUM.

Edin.

Elixir of Guaiacum.

Take of
Gum guaiacum, one pound;
Balſam of Peru, three drams;
Rectified ſpirit of wine, two pounds and a half.
Digeſt for ten days, and ſtrain.

This tincture may be conſidered as nearly agreeing in medical virtues with the two following. It is, however, leſs in uſe; but it may be employed with advantage in thoſe caſes where an objection occurs to the menſtruum uſed in forming the others.

TINCTURA GUAIACI.

Lond.

Tincture of Gum Guaiacum.

Take of
Gum guaicum, four ounces;
Compound ſpirit of ammonia, a pint and a half.
Digeſt for three days, and ſtrain.

ELIXIR GUAIACINUM VOLATILE.

Edin.

Volatile Elixir of Guaiacum.

Take of
Gum guaiacum, four ounces;
Balſam of Peru, two drams;
Diſtilled oil of ſaſſafras, half a dram;
Vinous ſpirit of ſal ammoniac, a pound and a half.
Macerate for ſix days in a cloſe veſſel, and ſtrain.

In the laſt of theſe formulæ, the vinous ſpirit of ſal ammoniac is leſs acrimonious than the menſtruum directed by the London College; and the balſam of Peru, and diſtilled oil of ſaſſafras, are uſeful additions, by increaſing the permanence of its operation as a general ſtimulant, or more particularly as a diaphoretic.

Theſe are very elegant and efficacious tinctures; the volatile ſpirit excellently diſſolving the gum, and at the ſame time promoting its medicinal virtue. In rheumatic caſes, a tea, or even table, ſpoonful, taken every morning and evening in any convenient vehicle, particularly in milk, has proved of ſingular ſervice.

TINCTURA HELLEBORI NIGRI.

Lond.

Tincture of black Hellebore.

Take of
Black hellebore root, in coarſe powder, four ounces;
Cochineal, powdered, two ſcruples;
Proof-ſpirit, two pints.
Digeſt with a gentle heat for eight days, and ſtrain.

TINCTURA MELAMPODII.

Edin.

Tincture of Melampodium, or black Hellebore.

Take of
Black hellebore root, four ounces;
Cochineal, half a dram;
Proof-ſpirit, two pounds and a half.
Digeſt them together for eight days, and afterwards filter the tincture through paper.

This is perhaps the beſt preparation of hellebore, when deſigned for an alterative, the menſtruum here employed extracting the whole of its virtues. It has been found, from experience, particularly ſerviceable in uterine obſtructions; in ſanguine conſtitutions, where chalybeates are hurtful, it has been ſaid that it ſeldom fails of exciting the menſtrual evacuations, and removing the ill conſequences of their ſuppreſſion.

preſſion. So great, according to ſome, is the power of this medicine, that wherever, from an ill conformation of the parts, or other cauſes, the expected diſcharge does not ſucceed on the uſe of it, the blood, as Dr Mead has obſerved, is ſo forcibly propelled, as to make its way through other paſſages. A teaſpoonful of the tincture may be taken twice in a day in warm water or any other convenient vehicle.

The college of Edinburgh had formerly a tincture of this root with wine. Proof-ſpirit is undoubtedly preferable, both as a menſtruum, and as being better fitted for keeping.

TINCTURA JALAPII.

Lond.

Tincture of Jalap.

Take of

Powdered jalap root, eight ounces;

Proof-ſpirit, two pints.

Digeſt with a gentle heat for eight days, and ſtrain.

TINCTURA JALAPPÆ.

Edin.

Tincture of Jalap.

Take of

Jalap, in coarſe powder, three ounces;

Proof-ſpirit, fifteen ounces.

Digeſt them for eight days, and ſtrain the tincture.

Rectified ſpirit of wine was formerly ordered for the preparation of this tincture; but rectified ſpirit diſſolving little more than the pure reſinous parts of the jalap, rendered the uſe of the medicine ſomewhat leſs commodious than that of the tincture prepared with proof-ſpirit. Moſt of the tinctures made in rectified ſpirit, diluted with water, ſo as to be fit for taking, form a turbid white mixture. Many of them are ſafely taken in this form, without any further addition: but the cathartic ones are never to be ventured on without an admixture of ſyrup or mucilage to keep the reſin united with the liquor; for if it ſeparates in its pure undivided ſtate, it never fails to produce violent gripes.

Some have preferred to the tinctures of jalap, a ſolution in ſpirit of wine of a known quantity of the reſin extracted from the root; and obſerve, that this ſolution is more certain in ſtrength than any tincture that can be drawn from the root directly. For, as the purgative virtue of jalap reſides in its reſin, and as all jalap appears from experiment not to be equally reſinous, ſome ſorts yielding five, and others not three, ounces of reſin from ſixteen; it follows, that although the root be always taken in the ſame proportion to the menſtruum, and the menſtruum always exactly of the ſame ſtrength, it may, nevertheleſs, according to the degree of goodneſs of the jalap, be impregnated with different quantities of reſin, and conſequently prove different in degree of efficacy. Tho' this objection againſt the tincture does not reach ſo far as ſome ſeem to ſuppoſe, it certainly behoves the apothecary to be careful in the choice of the root. The inferior ſorts may be employed for making *reſina jalappæ*, which they yield in as great perfection, tho' not in ſo large quantity, as the beſt. Neumann thinks even the worm-eaten jalap as good for that purpoſe as any other.

TINCTURA e KINO.

Edinb.

Tincture of Gum Kino.

Take of

Gum kino, two ounces;

Proof-

Proof-ſpirit, a pound and an half.

Digeſt eight days, and ſtrain.

The ſubſtance called *gum kino* ſeems to be really a gum-reſin; on which account proof-ſpirit is the moſt proper menſtruum. This preparation muſt therefore poſſeſs the virtues of the ſubſtance; and it is perhaps one of the beſt forms under which it can be exhibited in obſtinate diarrhœas, and in caſes of lienteria: but in hemorrhagies, it is in general proper to exhibit it either in ſubſtance or diffuſed; yet we cannot help thinking that the want of this tincture is an omiſſion in the London pharmacopœia.

TINCTURA LAVENDULÆ COMPOSITA.

Lond.

Compound Tincture of Lavender.

Take of

Spirit of lavender, three pints;
roſemary, one pint;
Cinnamon, bruiſed,
Nutmegs, bruiſed, of each half an ounce;
Red ſaunders, one ounce.

Digeſt for ten days, and ſtrain.

SPIRITUS LAVENDULÆ COMPOSITUS.

Edinb.

Compound Spirit of Lavender.

Take of

Simple ſpirit of lavender, three pounds;
Simple ſpirit of roſemary, one pound;
Cinnamon, one ounce;
Cloves, two drams;
Nutmeg, half an ounce;
Red ſaunders, three drams.

Macerate ſeven days, and ſtrain.

These two compoſitions, altho' varying a little from each other, both with reſpect to their ingredients and names, may yet be conſidered as preciſely the ſame. Although the London college, in the preſent edition of their pharmacopœia, have made many uſeful alterations with reſpect to names, yet the propriety of the change here adopted may perhaps be doubted: For it cannot with juſtice be ſtyled a tincture of lavender, when the diſtilled ſpirit of that plant is employed only as a menſtruum. If, therefore, it ſeemed neceſſary to refer it to the head of tinctures, it ought to have been denominated from the cinnamon or nutmegs; but ſince the activity of this article very much depends on the ſpirit of lavender, the old name is in our opinion juſtly preferable to the new one.

The red ſaunders is of no farther uſe in theſe compoſitions than as a colouring ingredient. If a yellow ſpirit was liked, the yellow ſaunders would be an excellent article, as it not only communicates a fine colour, but likewiſe a conſiderable ſhare of medicinal virtue. A ſpirit diſtilled from the flowers of lavender and ſage, in due proportion, and digeſted in the cold for a little time with ſome cinnamon, nutmegs, and yellow ſaunders, proves a very elegant and grateful one. Where eſſential oils are employed, particular care muſt be had in the choice of them; for on their goodneſs that of the medicine depends. The digeſtion of the ſpirit with the ſpices, &c. ſhould be performed without heat, otherwiſe the flavour of the medicine will be injured.

Theſe ſpirits are grateful reviving cordials: though conſiderably more ſimple, they are not leſs elegant or valuable, than many other more elaborate preparations. This medicine has long been held in great eſteem, under the name of Palsy

drops, in all kinds of languors, weakneſs of the nerves, and decays of age. It may be conveniently taken on ſugar, from ten to eighty or a hundred drops.

TINCTURA MOSCHI.

Edin.

Tincture of Muſk.

Take of

Muſk, two drams;

Rectified ſpirit of wine, one pound.

Digeſt for ten days, and ſtrain.

Rectified ſpirit is the moſt complete menſtruum for muſk; but in this form it is often impoſſible to give ſuch a quantity of the muſk as is neceſſary for our purpoſe; and hence this article is more frequently employed under the form of julep or bolus.

TINCTURA MYRRHÆ.

Lond.

Tincture of Myrrh.

Take of

Myrrh, bruiſed, three ounces;

Proof-ſpirit, a pint and an half;

Rectified ſpirit of wine, half a pint.

Digeſt with a gentle heat for eight days, and ſtrain.

TINCTURA MYRRHÆ.

Edin.

Tincture of Myrrh.

Take of

Myrrh, three ounces;

Proof-ſpirit, two pounds and a half.

After digeſtion for ten days, ſtrain off the tincture.

The pharmaceutical writers in general have been of opinion, that no good tincture can be drawn from myrrh by ſpirit of wine alone, without the aſſiſtance of fixed alkaline ſalts. But it appears from proper experiments, that theſe ſalts only heighten the colour of the tincture, without enabling the menſtruum to diſſolve any more than it would by itſelf. Rectified ſpirit extracts, without any addition, all that part of the myrrh in which its peculiar ſmell and taſte reſide, viz. the reſin: and proof-ſpirit diſſolves almoſt the whole of the drug, except its impurities: hence the combination of theſe two directed by the London college, is perhaps preferable to either by itſelf.

Tincture of myrrh is recommended internally for warming the habit, attenuating viſcid juices, ſtrengthening the ſolids, opening obſtructions, particularly thoſe of the uterine veſſels, and reſiſting putrefaction. Boerhaave greatly eſteems it in all languid caſes proceeding from ſimple inactivity; in thoſe female diſorders which are occaſioned by an aqueous, mucous, ſluggiſh indiſpoſition of the humours, and a relaxation of the veſſels; in the fluor albus, and all diſeaſes ariſing from a like cauſe. The doſe is from fifteen drops to forty or more. The medicine may doubtleſs be given in theſe caſes to advantage; though with us, it is more commonly uſed externally, for cleanſing foul ulcers, and promoting the exfoliation of carious bones.

TINCTURA OPII.

Lond.

Tincture of Opium.

Take of

Hard purified opium, powdered, ten drams;

Proof-ſpirit, one pint.

Digeſt for ten days, and ſtrain.

TINCTURA

TINCTURA THEBAICA, vulgo LAUDANUM LIQUIDUM.

Edin.

Tincture of Opium, commonly called *Liquid Laudanum.*

Take of

Opium, two ounces;

Spirituous cinnamon-water, one pound and a half.

Digeſt four days, and ſtrain off the tincture.

These are very elegant liquid opiates, the menſtruum in the laſt diſſolves nearly the whole ſubſtance of the opium, and effectually covers its ill flavour. It were to be wiſhed that the ſhops were furniſhed with a liquid opiate, in which the proportion of menſtruum was ſtill much larger, ſo as to admit of the doſe being determined by weight or meaſure; the method by drops ſeeming too precarious for a medicine of ſo powerful a kind. The following preparation is contrived with this view.

Take of

Thebaic extract, half a dram;

Highly rectified ſpirit of wine, called *alkohol*, ten ounces;

Simple cinnamon-water, twenty ounces.

Digeſt them together until the opium be diſſolved, and then filter the ſolution through paper.

This preparation is apprehended to be free from all the inconveniences attending the common opiate tinctures. The menſtruum diſſolves the whole of the opium except the impurities, and conſequently the tincture is not liable to any uncertainty in point of ſtrength. The doſe may be aſcertained to the greateſt exactneſs; one grain of opium is contained in one ounce by meaſure, which is equal nearly to ſeven drams by weight. Neither the tinctures in wine nor proof-ſpirit are ſo well adapted for keeping as could be wiſhed: in long ſtanding, a part of the opium is gradually thrown off from both, and conſequently the tinctures become gradually weaker: the part which thus ſeparates, amounts ſometimes, it is ſaid, to near one-fourth of the quantity of opium at firſt diſſolved: it floats on the ſurface of the vinous tincture, and in the ſpirituous ſinks to the bottom. In the preparation here recommended, it has not been obſerved that any ſeparation happens.

Inſtead of the cinnamon-water, pure water may be employed in the mixture: and where aromatic additions are wanted, either with a medicinal intention, or for covering the ill ſmell of the opium, any proper tincture or diſtilled water may be extemporaneouſly joined. Saffron, an addition once employed by the Edinburgh College, has been conſidered as a corrector of opium; but the qualities it was ſuppoſed to correct are merely imaginary: nor indeed can that article be of much importance with any intention in the ſmall quantity that enters a doſe of the tincture; a grain of opium being accompanied with only half a grain of ſaffron.

A preparation in ſome reſpects ſimilar to that here recommended, was introduced into the Edinburgh pharmacopœia publiſhed in 1774, under the title of *Tinctura meconii.* Each ounce of this tincture contained four grains of opium; and it was propoſed, that the doſes of it ſhould be meaſured, not by drops, but by weight: But as modern phyſicians are much more bold in giving opium than their predeceſſors, ſuch a ſcrupulous accuracy in the doſe is not thought at all neceſſary: And it is not probable that any dangerous conſequence will ever ariſe,

arise, merely from a difference in the size of drops. This, however, might be the case, where the tinctura thebaica is by accident taken for the tinctura meconii. To such mistakes, however, it was feared that the analogy of the articles, as well as the caution necessary with respect to both, might lead; and it was on on many accounts safer to have but one liquid laudanum only. It is, however, much to be regretted, that the liquid laudanum of the London and Edinburgh colleges, which by the former is now styled *Tinctura opii*, by the latter *Tinctura thebaica*, should differ so much from each other in point of strength.

TINCTURA OPII CAMPHORATA.

Lond.

Camphorated Tincture of Opium.

Take of

Hard purified opium,

Flowers of benzoine, of each one dram;

Camphor, two scruples;

Essential oil of aniseed, one dram;

Proof-spirit, two pints.

Digest for three days.

ELIXIR PAREGORICUM.

Edin.

Paregoric Elixir.

Take of

Flowers of benzoine,

English saffron, of each three drams;

Opium, two drams;

Essential oil of aniseeds, half a dram;

Vinous spirit of sal ammoniac, sixteen ounces.

Digest for four days in a close vessel, and strain.

These two, though differing not merely in name, may yet be considered as agreeing very nearly in their nature.

The most material differences in the last formula from the first are the substitution of the vinous spirit of sal ammoniac for the proof-spirit, and a larger proportion of opium; the vinous spirit of sal ammoniac is not only perhaps, a more powerful menstruum, but in most instances coincides with the virtues of the preparation; but as the opium is the ingredient on which we place the principal dependance, so its proportion is increased, in order that we may give it in such a dose as that the acrimony of the menstruum shall not prove hurtful to the stomach.

The London formula is taken from Le Mort, with the omission of three unnecessary ingredients, honey, liquorice, and alkaline salt. It was originally called Elixir asthmaticum, which name it does not ill deserve. It contributes to allay the tickling which provokes frequent coughing; and at the same time is supposed to open the breast, and give greater liberty of breathing: the opium procures (as it does by itself) a temporary relief from the symptoms; while the other ingredients tend to remove the cause, and prevent their return. It is given to children against the chincough, &c. from five drops to twenty: to adults, from twenty to an hundred. In the London formula, half an ounce by measure contains about a grain of opium; but in the Edinburgh formula, the proportion of opium is larger.

TINCTURA RHABARBARI.

Lond.

Tincture of Rhubarb.

Take of

Rhubarb, sliced, two ounces;

Lesser

Leſſer cardamom ſeeds, huſked and bruiſed, half an ounce;
Saffron, two drams;
Proof-ſpirit, two pints.
Digeſt for eight days, and ſtrain.

TINCTURA RHEI.

Edin.

Tincture of Rhubarb.

Take of
Rhubarb, three ounces;
Leſſer cardamom ſeeds, half an ounce:
Proof-ſpirit two pounds and a half.
Digeſt for ſeven days, and ſtrain.

TINCTURA RHABARBARI COMPOSITA.

Lond.

Compound Tincture of Rhubarb.

Take of
Rhubarb ſliced, two ounces;
Ginger powdered;
Saffron, each two drams;
Liquorice-root, bruiſed, half an ounce;
Diſtilled water, one pint;
Proof-ſpirit, twelve ounces.
Digeſt for fourteen days, and ſtrain.

TINCTURA RHEI AMARA.

Edin.

Bitter Tincture of Rhubarb.

Take of
Rhubarb, two ounces;
Gentian-root, half an ounce;
Virginian ſnake-root, one dram;
Proof-ſpirit, two pounds and a half.
Digeſt for ſeven days, and then ſtrain the tincture.

TINCTURA RHEI DULCIS.

Edin.

Sweet Tincture of Rhubarb.

It is made by adding to two pounds and a half of the ſtrained tincture of rhubarb, four ounces of ſugar-candy.

THE laſt of theſe preparations is improved from the former editions. Two ounces of liquorice and one of raiſins are ſupplied by an increaſe of the ſugar-candy.

All the foregoing tinctures of rhubarb are deſigned as ſtomachics and corroborants, as well as purgatives: ſpirituous liquors excellently extract thoſe parts of the rhubarb in which the two firſt qualities reſide, and the additional ingredients conſiderably promote their efficacy. In weakneſs of the ſtomach, indigeſtion, laxity of the inteſtines, diarrhœas, colic and other ſimilar complaints, theſe medicines are frequently of great ſervice: the ſecond is alſo in many caſes, an uſeful addition to the Peruvian bark, in the cure of intermittents, particularly in cachectic habits, where the viſcera are obſtructed; with theſe intentions, a ſpoonful or two may be taken for a doſe, and occaſionally repeated.

ELIXIR ex ALOE et RHEO, vulgo SACRUM.

Edin.

Elixir of Aloes and Rhubarb, commonly called *Sacred Elixir.*

Take of
Rhubarb, cut ſmall, ten drams;
Socotorine aloes, in powder, ſix drams;
Leſſer cardamom-ſeeds, half an ounce;
Proof-ſpirit, two pounds and a half.
Digeſt for ſeven days, and then ſtrain the elixir.

THIS preparation is very much employed as a warming cordial purge, and for the general purpoſes of aloetics; with which, however, it combines the medical properties of rhubarb.

TINC-

TINCTURA SABINÆ COMPOSITA.

Lond.

Compound Tincture of Savin.

Take of
Extract of savin, one ounce,
Tincture of castor, one pint;
myrrh, half a pint.
Digest till the extract of savin be dissolved, and then strain.

This preparation had a place in the last edition of our pharmacopœia, under the title of *Elixir myrrhæ compositum.*

This preparation is improved from one described in some former dispensaries under the name of ELIXIR UTERINUM. It is a medicine of great importance in uterine obstructions, and in hypochondriacal cases; though, possibly, means might be contrived of superadding more effectually the virtues of savin to a tincture of myrrh and castor. It may be given from five drops to twenty or thirty, or more, in penny-royal water, or any other suitable vehicle.

TINCTURA SCILLÆ.

Lond.

Tincture of Squill.

Take of
Squills, fresh dried, four ounces:
Proof-spirit, two pints.
Digest for eight days, and pour off the liquor.

For extracting the virtues of squills, the menstruum which has hitherto been almost solely employed is vinegar. There are, however, cases in which ardent spirit may be more proper; and by the menstruum here directed its virtues are fully extracted. Hence it is with propriety that the London college have introduced this form, as well as the vinegar and oxymel. But, in general, the purposes to be answered by squills may be better obtained by employing it in substance than in any other form.

TINCTURA SATURNINA, vulgo ANTIPHTHISICA.

Edinb.

Antiphthisical tincture.

Take of
Sugar of lead, an ounce and a half;
Vitriol of iron, one ounce;
Rectified spirit of wine, one pound.
Let a tincture be extracted without heat.

The reducing of the salts *separately* into powder, and performing the digestion *without heat*, are very necessary circumstances: for if the ingredients be attempted to be pulverized together, they will grow soft and almost liquid; and if heat be used, scarce any tincture will be obtained.

This tincture is sometimes given in doses of twenty or thirty drops, for restraining immoderate secretions, particularly the colliquative sweats attending hectic fevers and phthisical disorders; whence the name *antiphthisical* tincture. It is undoubtedly a medicine of great efficacy in these cases, but too dangerous to be rashly ventured on. Some have supposed, that it does not contain any of the sugar of lead; but experiments made for that purpose have shewn the contrary.

We must, however, consider the above preparation as unscientific. Both the acetous and vitriolic acid have a greater attraction for iron than for lead: and though the vitriolic be capable of discharging the acetous acid, yet it makes not only in its entire state a less perfect union with lead than the acetous acid, but it is now also combined with iron, for which it has a greater attraction,

and can therefore only act on the salt of lead in proportion as it is superabundant in the salt of copperas; but in proportion as the vitriolic disengages the acetous acid from the lead, the last, in its turn, will attach itself to the iron. On the whole, it is difficult to ascertain the precise nature of this preparation; it seems always, however, to contain a quantity of lead in a saline state, sufficient to expunge it from prudent practice: or, at least, if in these cases in which it has hitherto been employed, lead be thought necessary, the sal plumbi may with more safety and advantage be given in its solid state, particularly when combined with opium: And it is probably on this account that the present formula has now no place in the London pharmacopœia.

TINCTURA SENNÆ.

Lond.

Tincture of Senna.

Take of

Senna, one pound;
Caraway-seeds, bruised, one ounce and an half;
Lesser cardamom-seeds, husked and bruised, half an ounce;
Raisins, stoned, sixteen ounces;
Proof-spirit, one gallon.

Digest for fourteen days, and strain.

TINCTURA SENNÆ COMPOSITA, vulgo ELIXIR SALUTIS.

Edinb.

Compound tincture of Senna, commonly called *Elixir of health.*

Take of

Senna leaves, two ounces;
Jalap root, one ounce;
Coriander seeds, half an ounce;
Proof-spirit, two pounds and a half.

Digest for seven days, and to the strained liquor add four ounces of sugar-candy.

Both these tinctures are useful carminatives and cathartics, especially to those who have accustomed themselves to the use of spirituous liquors; they oftentimes relieve flatulent complaints and colics, where the common cordials have little effect: the dose is from one to two ounces. Several preparations of this kind have been offered to the public under the name of Daffy's elixir: the two above are equal to any, and superior to most of them. The last in particular is a very useful addition to the castor oil, in order to take off its mawkish taste: and as coinciding with the virtues of the oil, it is therefore much preferable to brandy, shrub, and such like liquors, which otherwise are often found necessary to make the oil sit on the stomach.

TINCTURA SERPENTARIÆ.

Lond.

Tincture of Snake-root.

Take of

Virginian snake root, three ounces;
Proof-spirit, two pints.

Digest for eight days, and strain.

Edinb.

Take of

Virginian snake-root, two ounces;
Cochineal, one dram;
Proof-spirit, two pounds and a half.

Digest in a gentle heat for four days, and then strain the tincture.

The tincture of snake-root was in a former pharmacopœia directed to to be prepared with the tinctura salis tartari, which being now expunged; it was proposed to the college to employ rectified spirit; but as the heat of this spirit prevents the medicine from being taken in so large a dose as it might

might otherwise be, a weaker spirit was chosen. The tincture made in this menstruum, which extracts the whole virtues of the root, may be taken to the quantity of a spoonful or more every five or six hours; and to this extent it often operates as an useful diaphoretic.

TINCTURA VALERIANÆ.

Lond.

Tincture of Valerian.

Take of

The root of wild valerian, in coarse powder, four ounces;

Proof-spirit, two pints.

Digest with a gentle heat for eight days, and strain.

The valerian root ought to be reduced to a pretty fine powder, otherwise the spirit will not sufficiently extract its virtues. The tincture proves of a deep colour, and considerably strong of the valerian; tho' it has not been found to answer so well in the cure of epileptic disorders as the root in substance, exhibited in the form of powder, or bolus. The dose of the tincture is, from half a spoonful to a spoonful or more, two or three times a day.

TINCTURA VALERIANÆ VOLATILIS.

Lond.

Volatile Tincture of Valerian.

Take of

The root of wild valerian, four ounces;

Compound spirit of ammonia, two pints.

Digest for eight days, and strain.

Edin.

Take of

Wild valerian root, two ounces;

Vinous spirit of sal ammoniac, one pound.

Macerate for six days in a close vessel, and strain.

Both the compound and vinous spirit of sal ammoniac are here excellent menstrua, and at the same time considerably promote the virtues of the valerian, which in some cases wants an assistance of this kind. The dose may be a teaspoonful or two.

TINCTURA VERATRI, sive HELLEBORI ALBI.

Edinb.

Tincture of Veratrum, or white Hellebore.

Take of

White hellebore root, eight ounces;

Proof-spirit, two pounds and a half.

Digest them together for ten days, and filter the tincture through paper.

This tincture is sometimes used for acuating cathartics, &c. and as an emetic in apoplectic and maniacal disorders. It may likewise be so managed, as to prove a powerful alterative and deobstruent, in cases where milder remedies have little effect. But a great deal of caution is requisite in its use: the dose, at first, ought to be only a few drops; if considerable, it proves violently emetic or cathartic.

ELIXIR VITRIOLI ACIDUM.

Edinb.

Acid Elixir of Vitriol.

Take of

Rectified spirit of wine, two pounds;

Drop into it by little and little six ounces of vitriolic acid; digest the mixture with a very gentle heat in a close vessel for three days, and then add of

Cinnamon, an ounce and a half;

Ginger, one ounce.

Digest again in a close vessel for six days, and then filter the tincture through

through paper placed in a glass funnel.

The intention in this process is, to obtain a tincture of aromatic vegetables, in spirit of wine, combined with a considerable proportion of vitriolic acid. When the tincture is first drawn with vinous spirit, and the acid added afterwards, the acid precipitates great part of what the spirit had before taken up: and on the other hand, when the acid is mixed with the spirit immediately before the extraction, it prevents the dissolution of all that it would have precipitated by the former way of treatment: by previously uniting the acid and the vinous spirit together by digestion, the inconvenience is somewhat lessened.

This is a valuable medicine in weakness and relaxations of the stomach and decays of constitution, particularly in those which proceed from irregularities, which are accompanied with slow febrile symptoms, or which follow the suppression of intermittents. It frequently succeeds after bitters and aromatics by themselves had availed nothing; and, indeed, great part of its virtues depend on the vitriolic acid; which, barely diluted with water, has, in these cases, where the stomach could bear the acidity, produced happy effects.

Fuller relates (in his *Medicina Gymnastica*) that he was recovered by Mynsicht's elixir, from an extreme decay of constitution, and continual retchings to vomit. It may be given from ten to thirty or forty drops or more, according to the quantity of acid, twice or thrice a-day, at such times as the stomach is most empty. It is very usefully conjoined with the bark, both as covering its disagreeable taste and coinciding with its virtues.

ELIXIR VITRIOLI DULCE.

Edinb.

Sweet Elixir of Vitriol.

This is made of the same aromatics, and in the same manner as the tinctura aromatica; except that, in place of the vinous spirit, the dulcified spirit of vitriol is employed.

This is designed for persons whose stomachs are too weak to bear the foregoing acid elixir; to the taste, it is gratefully aromatic, without any perceptible acidity. The dulcified spirit of vitriol, here directed, occasions little or no precipitation on adding it to the tincture.

A medicine of this kind was formerly in great esteem under the title of *Vigani's volatile elixir of vitriol;* the composition of which was first communicated to the public in the *Pharmacopœia reformata.* It is prepared by digesting some volatile spirits of vitriol upon a small quantity of mint leaves curiously dried, till the liquor has acquired a fine green colour. If the spirit, as it frequently does, partakes too much of the acid, this colour will not succeed: in such case, it should be rectified from a little fixed alkaline salt.

SPIRITUS VINOSUS CAMPHORATUS.

Edinb.

Camphorated Spirit of Wine.

Take of

Camphor, one ounce;
Rectified spirit of wine, one pound.

Mix them together, that the camphor may be dissolved.

It may also be made with a double, triple, &c. proportion of camphor.

This solution of camphor is employed

ployed chiefly for external uſes, againſt rheumatic pains, paralytic numbneſſes, inflammations, for diſcuſſing tumors, preventing gangrenes, or reſtraining their progreſs. It is too pungent to be exhibited internally, even when diluted, nor does the dilution ſucceed well; for on the admixture of aqueous liquors, the camphor gradually ſeparates and runs together into little maſſes.

Hoffman, Rothen, and others, mention a camphorated ſpirit not ſubject to this inconvenience. It is prepared by grinding the camphor with ſomewhat more than an equal weight of fixed alkaline ſalt, then adding a proper quantity of proof-ſpirit, and drawing off one half of it by diſtillation. This ſpirit was propoſed to be received into our pharmacopœias, under the title of *Spiritus camphoræ tartarizatus*. But on trial, it did not anſwer expectation: ſome of the camphor riſes with the ſpirit in diſtillation, though but a ſmall quantity; whence, mixed with a large portion of water, it does not ſenſibly render it turbid; but in a proper quantity, it exhibits the ſame appearance as the more common camphorated ſpirit: it did not appear, that ſpirit diſtilled from camphor, with or without the alkaline ſalt, differed at all in this reſpect.

The moſt convenient method of uniting camphor with aqueous liquors, for internal uſe, ſeems to be by the mediation of almonds, or of mucilages; triturated with theſe, it readily mingles with water into the form of an emulſion, at the ſame time that its pungency is conſiderably abated. It may alſo be commodiouſly exhibited in the form of an oily draught, expreſſed oils totally diſſolving it.

LINIMENTUM ANODYNUM, vulgo BALSAMUM ANODYNUM.

Edinb.

The Anodyne Liniment, commonly called *Anodyne Balſam.*

Take of

Opium, one ounce;
White Caſtile ſoap, four ounces;
Camphor, two ounces;
Eſſential oil of roſemary, half an ounce;
Rectified ſpirit of wine, two pounds.

Digeſt the opium and ſoap in the ſpirit for three days; then to the ſtrained liquor add the camphor and oil, diligently ſhaking the veſſel.

The ſeveral ingredients in this formula are exceedingly well ſuited for the purpoſes expreſſed in the title of this preparation; the anodyne balſam has accordingly been uſed with much ſucceſs to allay pains in ſtrained limbs, and ſuch like topical affections.

LINIMENTUM SAPONACEUM vulgo BALSAMUM SAPONACEUM.

Edinb.

Saponaceous Balſam or Liniment.

This is made in the ſame manner and of the ſame ingredients as the anodyne balſam, only omitting the opium.

It is intended as a ſimplification and improvement of what had formerly the name of *Opodeldoch*, and is employed with the ſame intentions as the two preceding.

TINCTURA ANTIMONII.

Roſs.

Tincture of Antimony.

Take of

Antimony, in powder, half a pound;

Salt

Salt of tartar, one pound;
Rectified ſpirit, three pints.

Mix the antimony with the ſalt of tartar, and inject them by little and little into a crucible placed in a ſtrong fire. Let the mixture melt thin, and continue in this ſtate for half an hour; after which it is to be poured out into a hot and dry iron mortar. Powder the maſs while hot, put it into a heated matraſs, and pour the ſpirit on it. Digeſt them together for three days, and then ſtrain the tincture.

In this proceſs, the alkaline ſalt unites with the ſulphur of the antimony into a hepar; which communicates to the ſpirit a tincture ſimilar to the tinctura ſulphuris. This antimonial tincture is ſuppoſed to contain likewiſe ſome of the reguline parts of the mineral, and is ſaid to have ſometimes provoked a puke when taken on an empty ſtomach, even in a ſmall doſe. It ſtands recommended in doſes from ten to ſixty drops or more, as a deobſtruent, promoter of urine, and purifier of the blood. But there is probably no purpoſe to be anſwered by it, which may not be more effectually obtained by other antimonial preparations, particularly the vinum e tartaro antimoniali.

TINCTURA COLOCYNTHIDIS.

Suec.

Tincture of Colocynth.

Take of
Colocynth, cut ſmall, and freed from the ſeeds, one ounce;
Anniſeed, one dram;
Proof-ſpirit, fourteen ounces.

Macerate for three days, and ſtrain through paper.

In this tincture we have the active purgative power of the colocynth. And although it be ſeldom uſed as a cathartic by itſelf, yet even in ſmall quantity it may be advantageouſly employed to briſken the operation of others.

TINCTURA CUPRI VOLATILIS.

Gen.

Volatile Tincture of Copper.

Take of
Filings of copper, one dram;
Spirit of ſal ammoniac, an ounce and a half.

Mix them, and keep them in a veſſel cloſely ſtopt, which is to be frequently agitated, till the liquor becomes of a beautiful violet colour

In this formula the copper is brought to a ſaline ſtate by means of the volatile alkali. It may therefore be conſidered as very analogous to the cuprum ammoniacum. And where recourſe is had to it in practice, it is employed with the ſame intentions.

TINCTURA QUASSIÆ.

Suec.

Tincture of Quaſſia.

Take of
Quaſſia, bruiſed, two ounces;
Proof-ſpirit, two pounds and an half.

Digeſt for three days, and then ſtrain through paper.

By proof-ſpirit the medical properties, as well as the ſenſible qualities of the quaſſia, are readily extracted. And under this form it may be advantageouſly employed for anſwering different purpoſes in medicine.

TINCTURA LACCÆ.

Suec.

Tincture of Lac.

Take of
Gum lac, powdered, one ounce;
Myrrh,

Myrrh, three drams;
Spirit of scurvy-grass, a pint and an half.

Digest in a sand heat for three days; after which, strain off the tincture for use.

This tincture is principally employed for strengthening the gums, and in bleedings and scorbutic exulcerations of them: it may be fitted for use with these intentions, by mixing it with honey of roses, or the like. Some recommend it internally against scorbutic complaints, and as a corroborant in gleets, female weaknesses, &c. Its warmth, pungency, and manifestly astringent bitterish taste, point out its virtues in these cases to be considerable, though common practice among us has not yet received it.

TINCTURA NUCIS VOMICÆ.

Ross.

Tincture of Nux Vomica.

Take of
Nux vomica, an ounce and a half;
Proof-spirit, two pounds.
Digest for some days, and then strain it.

The nux vomica, a very active vegetable, has of late, as we have already had occasion to observe, been introduced into practice as taken internally, for the cure of intermittents and of contagious dysentery. In these affections it may be employed under the form of tincture as well as in substance; and in this way it most readily admits of being combined with other articles, either as adjuvantia or corrigentia.

TINCTURA SUCCINI.

Suec.

Tincture of Amber.

Take of
Yellow amber, powdered, one ounce;
Vitriolic æther, four ounces.
Digest for three days in a vessel accurately closed, frequently shaking the vessel, and after this strain through paper.

The tincture of amber was formerly prepared with rectified spirit of wine: but the menstruum here directed gives a more complete solution, and forms a more elegant and active tincture. It possesses the whole virtues of the concrete; and although it has no place in our Pharmacopœia, yet it is perhaps to be considered as one of the most valuable preparations of amber. It has been recommended in a variety of affections, particularly those of the nervous kind, as hysterical and epileptic complaints. It may be taken from a few drops to the extent of a tea-spoonful in a glass of wine or any similar vehicle.

CHAP.

CHAP. XXII.

MISTURÆ.

MIXTURES.

MISTURA CAMPHORATA.
Lond.
Camphorated Mixture.

Take of
Camphor, one dram;
Rectified ſpirit of wine, ten drops;
Double-refined ſugar, half an ounce;
Boiling diſtilled water, one pint.
Rub the camphor firſt with the ſpirit of wine, then with the ſugar; laſtly, add the water by degrees, and ſtrain the mixture.

While camphor is often exhibited in a ſolid ſtate, it is frequently alſo advantageous to employ it as diffuſed in watery fluids. And with this intention the preſent formula is perhaps one of the moſt ſimple, the union being affected merely by the aid of a ſmall quantity of ſpirit of wine and a little ſugar. But perhaps the more common form of emulſion in which the union is effected, by triturating the camphor with a few almonds, is not to be conſidered as inferior to this. For the unctuous quality of the almonds ſerves in a conſiderable degree to cover the pungency of the camphor without diminiſhing its activity. Camphor under the preſent form as well as that of emulſion, is very often uſeful in fevers, taken to the extent of a table-ſpoonful every three or four hours.

MISTURA CRETACEA.
Lond.
Chalk-mixture.

Take of
Prepared chalk, one ounce;
Double-refined ſugar, ſix drams;
Gum Arabic, powdered, two ounces;
Diſtilled water, two pints.
Mix them.

POTIO CRETACEA.
Edinb.
Chalk-drink.

Take of
Prepared chalk, one ounce;
Pureſt refined ſugar, half an ounce;
Mucilage of gum Arabic, two ounces.
Rub them together, and add by degrees,
Water, two pounds and an half;
Spirituous cinnamon water, two ounces.

Theſe two preparations agree pretty much both in their name and in their nature. But of the two formulæ that of the Edinburgh college

lege is moſt agreeable to the palate, from containing a proportion of cinnamon water, by which the diſagreeable taſte of the chalk is taken off.

In the former edition of the Edinburgh pharmacopœia, a preparation of this kind ſtood among the decoctions, and the chalk was directed to be boiled with the water and gum: by the preſent formula, the chalk is much more completely ſuſpended by the mucilage and ſugar; which laſt gives alſo to the mixture an agreeable taſte. It is proper to employ the fineſt ſugar, as the redundant acid in the coarſer kinds might form with the chalk a kind of earthy ſalt. It would perhaps have been more proper to have added an aromatic, by ſuſpending the entire powder of cinnamon, or its oil, by means of the mucilage and ſugar: The method here directed is, however, leſs exceptionable in this than many other preparations, as the precipitated matter of the ſpirituous water will probably be inviſcated in the ſaccharine and mucilaginous matter. This is a very elegant form of exhibiting chalk, and is an uſeful remedy in diſeaſes ariſing from, or accompanied with, acidity in the primæ viæ. It is frequently employed in diarrhœa proceeding from that cauſe. The mucilage not only ſerves to keep the chalk uniformly diffuſed, but alſo improves its virtues by ſheathing the internal ſurface of the inteſtines. The doſe of this medicine requires no nicety. It may be taken to the extent of a pound or two in the courſe of a day.

MISTURA MOSCHATA.

Lond.

Muſk-mixture.

Take of

Muſk, two ſcruples;

Gum Arabic, powdered,

Double-refined ſugar, of each one dram;

Roſe-water, ſix ounces by meaſure.

Rub the muſk firſt with the ſugar, then with the gum, and add the roſe-water by degrees.

This had formerly the name of *Julepum e moſcho*, and was intended as an improvement upon the *Hyſteric julep with muſk* of Bates. Orange-flower water is directed by that author; and indeed this more perfectly coincides with the muſk than roſe-water: but as the former is difficultly procurable in perfection, the latter is here preferred. The julep appears turbid at firſt: on ſtanding a little time, it depoſits a brown powder, and becomes clear, but at the ſame time loſes great part of its virtue. This inconvenience may be prevented by thoroughly grinding the muſk with gum Arabic before the addition of the water; by means of the gum, the whole ſubſtance of the muſk is made to remain ſuſpended in the water. Volatile ſpirits are in many caſes an uſeful addition to muſk, and likewiſe enable water to keep ſomewhat more of the muſk diſſolved than it would otherwiſe retain.

LAC AMYGDALÆ.

Lond.

Almond-milk.

Take of

Sweet almonds, one ounce and an half;

Double-refined ſugar, half an ounce;

Diſtilled water, two pints.

Beat the almonds with the ſugar; then, rubbing them together, add by degrees the water, and ſtrain the liquor.

EMUL-

EMULSIO COMMUNIS.

Edin.

Common Emulsion.

Take of

Sweet almonds, one ounce;
Bitter almonds, one dram;
Common-water, two pounds and a half.

Beat the blanched almonds in a stone mortar, and gradually pour on them the common water, working the whole well together, then strain off the liquor.

EMULSIO ARABICA.

Edin.

Arabic Emulsion.

This is made in the same manner as the preceding; only adding, while beating the almonds.

Of mucilage of gum arabic, two ounces.

All these may be considered as possessing nearly the same qualities. But of the three the last is the most powerful demulcent.

Great care should be taken, that the almonds be not become rancid by keeping; which will not only render the emulsion extremely unpleasant, a circumstance of great consequence in a medicine that requires to be taken in large quantities, but likewise give it injurious qualities little expected from preparations of this class. The addition of the bitter almonds now ordered by the Edinburgh college in preparing these emulsions, may perhaps preserve them in some degree from suffering the above changes; but it is much more useful as giving the emulsion an agreeable flavour. And although the substance of bitter almonds be of a deleterious nature, yet nothing is to be apprehended from the quantity here employed.

These liquors are principally used for diluting and obtunding acrimonious humours; particularly in heat of urine and stranguries arising either from a natural sharpness of the juices, or from the operation of cantharides, and other irritating medicines: in these cases, they are to be drank frequently, to the quantity of half a pint or more at a time.

Some have ordered emulsions to be boiled, with a view to deprive them of some imaginary crudity; but by this process they quickly cease to be emulsions, the oil separating from the water, and floating distinctly on the surface. Acids and vinous spirits produce a like decomposition. On standing also for some days, without addition, the oily matter separates and rises to the top, not in a pure form, but like thick cream. These experiments prove the composition of the emulsions made from the oily seeds of kernels, and at the same time point out some cautions to be attended to in their preparation and use.

LAC AMMONIACI.

Lond.

Ammoniacum Milk.

Take of

Ammoniacum, two drams;
Distilled water, half a pint.

Rub the gum-resin with the water, gradually poured on, until it becomes a milk.

In the same manner may be made a milk of asafœtida, and of the rest of the gum-resins.

The ammoniacum milk is used for attenuating tough phlegm, and promoting expectoration, in humoural asthmas, coughs, and obstructions of the viscera. It may be given to the quantity of two spoonfuls twice a day.

The lac asafœtida is employed in spasmodical, hysterical, and other nervous affections. And it is also

not unfrequently used under the form of injection. It answers the same purposes as asafœtida in substance.

SPIRITUS ÆTHERIS VITRIOLICI COMPOSITUS.

Lond.

Compound Spirit of Vitriolic Æther.

Take of

Spirit of vitriolic æther, two pounds;

Oil of wine, three drams.

Mix them.

This is supposed to be, if not precisely the same, at least very nearly, the celebrated *Liquor anodynus mineralis* of Hoffman: As we learn from his own writings, that the liquor which he thus denominated, was formed of dulcified spirit of vitriol and the aromatic oil which arises after it: But he does not tell us in what proportions these were combined. It has been highly extolled as an anodyne and antispasmodic medicine; and with these intentions it is not unfrequently employed in practice.

SPIRITUS AMMONIÆ COMPOSITUS.

Lond.

Compound Spirit of Ammonia.

Take of

Spirit of ammonia, two pints;

Essential oil of lemon,

nutmeg, of each two drams.

Mix them

This differs almost only in name from the following.

SPIRITUS VOLATILIS AROMATICUS, vulgo SPIRITUS VOLATILIS OLEOSUS, et SPIRITUS SALINUS AROMATICUS.

Edinb.

Volatile Aromatic Spirit, commonly called *Volatile oily Spirit*, and *Saline aromatic Spirit.*

Take of

Vinous spirit of sal ammoniac, eight ounces;

Distilled oil of rosemary, one dram and a half;

Distilled oil of lemon-peel, one dram.

Mix them that the oils may be dissolved.

By the method here directed, the oils are as completely dissolved as when distillation is employed.

Volatile salts, thus united with aromatics, are not only more agreeable in flavour, but likewise more acceptable to the stomach, and less acrimonious than in their pure state. Both the foregoing compositions turn out excellent ones, provided the oils are good, and the distillation skilfully performed. The dose is from five or six drops to sixty or more.

Medicines of this kind might be prepared extemporaneously, by dropping any proper essential oil into the dulcified spirit of sal ammoniac, which will readily dissolve the oil without the assistance of distillation. But it is perhaps preferable that they should be kept in the shops ready-mixed.

SPIRITUS AMMONIÆ SUCCINATUS.

Lond.

Succinated Spirit of Ammonia.

Take of

Alkohol, one ounce;

Water of pure ammonia, four ounces, by measure;

Rectified oil of amber, one scruple;

Soap, ten grains.

Digest the soap and oil of amber in the alkohol till they be dissolved; then add the water of pure ammonia, and mix them by shaking.

This

This compoſition is extremely penetrating, and has lately come into eſteem, particularly for ſmelling to in lowneſſes and faintings, under the name of *Eau de luce.* It has been hitherto brought from France. It is not quite limpid, for the oil of amber diſſolves only imperfectly in the ſpirit: if the volatile ſpirit be not exceedingly ſtrong, ſcarely any of the oil will be imbibed.

The *Eau de luce* is not only uſed with the view of making an impreſſion on the noſe, but is taken internally in the ſame caſes. It has likewiſe of late been celebrated as a remedy for the bite of the rattleſnake, when uſed internally, and applied externally to the wounded part.

SRIRITUS CAMPHORATUS.

Lond.

Camphorated Spirit.

Take of

Camphor, four ounces;
Rectified ſpirit of wine, two pints;

Mix them, ſo that the camphor may be diſſolved.

Of this we have already had occaſion to ſpeak in the preceding chapter under the title given to it by the Edinburgh college.

EMULSIO OLEOSA SIMPLEX.

Gen.

Simple oily Emulſion.

Take of

Almond oil, one ounce;
Syrup of althea, an ounce and a half;
Gum Arabic, half an ounce;
Spring water, ſix ounces.

Mix, and make an emulſion according to art.

EMULSIO OLEOSA VOLATILIS.

Gen.

Volatile oily Emulſion.

Take of

Almond oil, an ounce and a half;
Syrup of althea, one ounce;
Gum arabic, half an ounce;
Volatile alkaline ſalt, one dram;
Spring water, ſeven ounces.

Mix them according to art.

Both theſe are elegant and convenient modes of exhibiting oil internally. And under theſe forms it is often advantageouſly employed in caſes of cough, hoarſeneſs, and ſimilar affections. By means of the alkali, a more intimate union of oil with water is obtained than can be had with the intermedium either of ſyrup or vegetable mucilage; and in ſome caſes, the alkali both contributes to anſwer the intention in view, and prevents the oil from exciting ſickneſs at ſtomach: But in other inſtances, the pungency which it imparts is diſagreeable to the patient and unfavourable to the diſeaſe. According to theſe circumſtances, therefore, where an oily mixture is to be employed, the practitioner will be determined in his choice to have recourſe either to the one or the other formula.

JULAPIUM ACIDUM.

Gen.

Acid Julep.

Take of

Weak vitriolic acid, three drams;
Simple ſyrup, three ounces;
Spring water, two pounds.

Mix them.

In this ſtate, the vitriolic acid is ſufficiently diluted to be taken with eaſe in conſiderable doſes. And it may thus be advantageouſly employed in various affections; concerning

which we have already had occasion to make some remarks in the Materia Medica, and which are to be answered, either by its action on the stomach, or on the system in general.

JULAPIUM ÆTHEREUM.

Gen.

Æther Julep.

Take of

Pure vitriolic æther, two scruples;
Spring water, six ounces;
Refined sugar, half an ounce.

Mix them according to art.

Although it is in general proper that æther should be diluted only when it is to be immediately used, yet it is sometimes necessary that it should be put into the hands of the patient in the state in which it is to be taken. In such instances the present formula is a very proper one; for the addition of a little mucilage tends both to cover the pungency of the æther in the mouth, and to retain it in a state of mixture with the water.

JULAPIUM SUCCINATUM.

Gen.

Amber Julep.

Take of

Tincture of amber, two drams;
Refined sugar, half an ounce;
Spring water, six ounces.

Mix them according to art.

Under this form the tincture of amber is so far diluted and sweetened, as to form an agreeable mixture; and in this manner it may often be advantageously employed for counteracting nervous affections, and answering those other purposes for which we have already mentioned that this article is had recourse to in practice.

MIXTURA SALINA.

Suec.

Saline Mixture, or Julep.

Take of

Fixt vegetable alkali, three drams;
River water, half a pound.

To this lixivium add,

Lemon juice, half a pound, or as much as is sufficient to saturate the alkali;
Syrup of black currants, one ounce.

This mixture is frequently prescribed in febrile diseases as a means of promoting a slight discharge by the surface: For where the skin is parched with great increased heat, it generally operates as a gentle diaphoretic. It often also promotes a discharge by the kidney, and is not unfrequently employed to restrain vomiting. With these intentions it is in daily use among British practitioners, although it has no place in our pharmacopœias, from its being entirely an extemporaneous prescription.

SOLUTIO MINERALIS ARSENICI.

Mineral Solution of Arsenic.

Take of

White arsenic, reduced to a subtile powder,
Fixed vegetable alkali, each sixty-four grains;
Distilled water, half a pint.

Put them into a florentine flask, and let this be placed in a sand heat, so that the water may boil gently till the arsenic be completely dissolved; then add to the solution when cold half an ounce of spirit of lavender, and as much distilled water as to make the solution amount to a pint by measure, or fifteen ounces and an half by weight.

For the introduction of this remedy

medy we are indebted to Dr Fowler of Stafford. We have already had occasion to mention it when treating of arsenic in the Materia Medica: and we then observed, that if it be not precisely the same, it is at least supposed to be very analogous to a remedy which has had a very extensive sale in some parts of England under the name of the *Tasteless ague drop*; and which has been employed with very great success in the cure of obstinate intermittents. But whether the present formula in any degree approaches to the tasteless ague drop or not, there can be no doubt, from the concurring testimony of many eminent practitioners, that it is equally successful in combating intermittents. For this purpose it is given according to the age and other circumstances of the patient in doses from two to twenty drops, once, twice, or oftener in the course of the day: And its use has been found to be attended with remarkable success, although with some patients even very small doses have been found to excite severe vomiting. Besides distinctly marked intermittents, this solution has also been sometimes successful in obstinate periodical headachs, and in cutaneous affections of the leprous kind, resisting every other mode of cure. And perhaps in every case where arsenic can be employed with safety or advantage internally, this preparation is preferable to any other with which we are yet acquainted.

CHAP. XXIII.

SYRUPI.

SYRUPS.

SYRUPS are saturated solutions of sugar, made in water, or watery or vinous infusions, or in juices. They were formerly considered as medicines of much greater importance than they are thought to be at present. Syrups and distilled waters were for some ages used as the great alteratives; insomuch that the evacuation of any peccant humour was never attempted, till by a due course of these it had first been supposed to be regularly prepared for expulsion. Hence arose the exuberant collection of both, which we meet with in pharmacopœias, and like errors have prevailed in each. As multitudes of distilled waters have been compounded from materials unfit to give any virtue over the helm; so numbers of syrups have been prepared from ingredients, which in this form cannot be taken in sufficient doses to exert their virtues; for

two

two thirds of a syrup consist of sugar, and greatest part of the remaining third is an aqueous fluid.

Syrups are at present chiefly regarded as convenient vehicles for medicines of greater efficacy; and used for sweetening draughts and juleps, for reducing the lighter powders into boluses, pills, or electuaries, and other similar purposes. Some likewise may not improperly be considered as medicines themselves; as those of saffron, buckthorn-berries, and some others.

To the chapter on syrups the London college in their pharmacopœia have premised the following general observations.

In the making of syrups, where we have not directed either the weight of the sugar, or the manner in which it should be dissolved, this is to be the rule:

Take of

Double refined sugar, twenty-nine ounces;

Any kind of liquor, one pint.

Dissolve the sugar in the liquor, in a water bath; then set it aside for twenty-four hours; take off the scum, and pour off the syrup from the feces, if there be any.

The following are the general rules which have commonly been given with respect to the preparation of syrups.

I.

All the rules laid down for making decoctions are likewise to be observed in the decoctions for syrups. Vegetables, both for decoctions and infusions, ought to be dry, unless they are expressly ordered otherwise.

II.

In both the London and Edinburgh pharmacopœias, only the purest or double-refined sugar is allowed.

In the syrups prepared by boiling, it has been customary to perform the clarification with whites of eggs after the sugar had been dissolved in the decoction of the vegetable. This method is apparently injurious to the preparation; since not only the impurities of the sugar are thus discharged; but a considerable part likewise of the medicinal matter, which the water had before taken up from the ingredients, is separated along with them. Nor indeed is the clarification and despumation of the sugar, by itself, very advisable; for its purification by this process is not so perfect as might be expected: after it has undergone this process, the refiners still separate from it a quantity of oily matter, which is disagreeable to weak stomachs. It appears therefore most eligible to employ fine sugar for all the syrups; even the purgative ones (which have been usually made with coarse sugar, as somewhat coinciding with their intention) not excepted; for, as purgative medicines are in general ungrateful to the stomach, it is certainly improper to employ an addition which increases their offensiveness.

III.

Where the weight of the sugar is not expressed, twenty-nine ounces are to be taken in every pint of liquor. The sugar is to be reduced into powder, and dissolved in the liquor by the heat of a water-bath, unless ordered otherwise.

Although in the formula of several of the syrups, a double weight of sugar to that of the liquor is directed, yet less will generally be sufficient. First, therefore, dissolve in the liquor an equal weight of sugar, then gradually add some more

more in powder, till a little remains undiſſolved at the bottom, which is to be afterwards incorporated by ſetting the ſyrup in a water bath.

The quantity of ſugar ſhould be as much as the liquor is capable of keeping diſſolved in the cold: if there is more, a part of it will ſeparate, and concrete into cryſtals, or candy; if leſs, the ſyrup will be ſubject to ferment, eſpecially in warm weather, and change into a vinous, or ſour liquor. If in cryſtalliſing, only the ſuperfluous ſugar be ſeparated, it would be of no inconvenience; but when part of the ſugar has candied, the remaining ſyrup is found to have an under proportion, and is as ſubject to fermentation as if it had wanted ſugar at firſt.

IV.

Copper-veſſels, unleſs they be well tinned ſhould not be employed in the making of acid ſyrups, or ſuch as are compoſed of the juices of fruits.

The confectioners, who are the moſt dexterous people at theſe kinds of preparations, to avoid the expence of frequently new-tinning their veſſels, rarely make uſe of any other than copper ones untinned, in the preparation even of the moſt acid ſyrups, as of oranges and lemons. Nevertheleſs, by taking due care, that their coppers be well ſcoured and perfectly clean, and that the ſyrup remain no longer in them than is abſolutely neceſſary, they avoid giving it any ill taſte or quality from the metal. This practice, however, is by no means to be recommended to the apothecary.

V.

The ſyrup, when made, is to be ſet by till next day; if any ſaccharine cruſt appears upon the ſurface, it is to be taken off.

SYRUPUS ACETI.

Edinb.

Syrup of Vinegar.

Take of

Vinegar, two pounds and an half;
Refined ſugar, three pounds and an half

Boil them till a ſyrup be formed.

This is to be conſidered as ſimple ſyrup merely acidulated, and is by no means unpleaſant. It is often employed in mucilaginous mixtures, and the like; and on account of its cheapneſs it is often preferred to ſyrup of lemons.

SYRUPUS ALTHÆÆ.

Lond.

Syrup of Marſhmallow.

Take of

Freſh root of marſhmallow, bruiſed, one pound;
Double-refined ſugar, four pounds;
Diſtilled water, one gallon.

Boil the water with the marſhmallow root to one half, and preſs out the liquor when cold. Set it by twelve hours; and, after the feces have ſubſided, pour off the liquor. Add the ſugar, and boil it to the weight of ſix pounds.

Edin.

Take of

Marſhmallow roots, ſomewhat dried, nine ounces;
Water, ten pounds;
Pureſt ſugar, four pounds.

Boil the water with the roots to the conſumption of one half, and ſtrain the liquor, ſtrongly expreſſing it. Suffer the ſtrained liquor to reſt till the feces have ſubſided; and when it is free from the dregs, add the ſugar; then boil ſo as to make a ſyrup.

The ſyrup of marſhmallows ſeems to have been a ſort of favourite among

mong dispensatory writers, who have taken great pains to alter and amend it, but have been wonderfully tender in retrenching any of its articles. In the last prescription, it is lopt of its superfluities, without any injury to its virtues. It is used chiefly in nephritic cases, for sweetening emollient decoctions, and the like: of itself it can do little service, notwithstanding the high opinion which some have entertained of it; for what can be expected from two or three spoonfuls of the syrup, when the decoction, from which two or three pounds are made, may be taken at a draught or two? it is sometimes useful in tickling coughs, by invisicating irritating matter distilling in the fauces: in this way it sometimes affords considerable relief.

SYRUPUS CARYOPHYLLI RUBRI.

Lond.

Syrup of Clove July-flower.

Take of

Fresh clove July-flowers, the heels being cut off, two pounds;

Boiling distilled water, six pints.

Macerate the flowers for twelve hours in a glass vessel; and, in the strained liquor, dissolve the double refined sugar, that it may be made a syrup.

SYRUPUS CARYOPHYLLORUM.

Edin.

Syrups of Clove July flower.

Take of

Clove July-flowers, fresh gathered and freed from the heels, one pound;

Purest sugar, seven pounds and a quarter;

Boiling water, four pounds.

Macerate the flowers in the water for a night; then to the strained liquor add the sugar previously beat, and dissolve it by a gentle heat, to make the whole into a syrup.

This syrup is of an agreeable flavour, and a fine red colour; and for these it is chiefly valued. Some have substituted for it one easily preparable at seasons when the flowers are not to be procured: an ounce of clove spice is infused for some days in twelve ounces of white wine, the liquor strained, and, with the addition of twenty ounces of sugar, boiled to a proper consistence; a little cochineal renders the colour of this syrup exactly similar to that prepared from the clove July-flower; and its flavour is of the same kind, though not so pleasant. The abuse may be readily detected by adding to a little of the syrup some alkaline salt or ley; which will change the genuine syrup to a green colour; but in the counterfeit, it will make no such alteration, only varying the shade of the red.

As the beauty of the colour is a principal quality in this syrup, no force in the way of expression should be used in separating the liquor from the flowers.

SYRUPUS COLCHICI.

Edin.

Syrup of Colchicum.

Take of

Colchicum root, fresh and succulent, cut into small pieces, one ounce:

Vinegar, sixteen ounces:

Purest sugar, twenty-six ounces.

Macerate the root in the vinegar two days, now and then shaking the vessel; then strain it with a gentle pressure. To the strained liquor add the sugar, and boil a little, so as to form a syrup.

This syrup seems to be the best preparation of the colchicum; great care is required to take up this root

in the proper ſeaſon: and from errors of this kind we are to aſcribe the uncertainty in the effects of this medicine as found in the ſhops.

The ſyrup of colchicum is often ſucceſsfully employed as a diuretic, and may be taken from a dram or two to the extent of an ounce or more.

SYRUPUS CORTICIS AURANTII.

Lond.

Syrup of Orange-peel.

Take of

Freſh outer-rind of Seville oranges, eight ounces;

Boiling diſtilled water, five pints.

Macerate for twelve hours in a cloſe veſſel; and, in the ſtrained liquor, diſſolve double-refined ſugar to make a ſyrup.

Edin.

Take of

Yellow rind of Seville orange-peel freſh, ſix ounces;

Boiling water, three pounds.

Infuſe them for a night in a cloſe veſſel; then ſtrain the liquor; let it ſtand to ſettle; and having poured it off clear from the ſediment, diſſolve in it four pounds and a quarter of white ſugar, ſo as to make it into a ſyrup with a gentle heat.

In making this ſyrup, it is particularly neceſſary that the ſugar be previouſly powdered, and diſſolved in the infuſion with as gentle a heat as poſſible, to prevent the exhalation of the volatile parts of the peel. With theſe cautions, the ſyrup proves a very elegant and agreeable one, poſſeſſing great ſhare of the fine flavour of the orange-peel.

SYRUPUS CROCI.

Lond.

Syrup of Saffron.

Take of

Saffron, one ounce.

Boiling diſtilled water, one pint.

Macerate the ſaffron, in the water, for twelve hours, in a cloſe veſſel; and diſſolve double-refined ſugar in the ſtrained liquor that it may be made a ſyrup.

Saffron is very well fitted for making a ſyrup, as in this form a ſufficient doſe of it is contained in a reaſonable compaſs. This ſyrup is at preſent frequently preſcribed; it is a pleaſant cordial, and gives a fine colour to juleps.

SYRUPUS SUCCI LIMONIS.

Lond.

Syrup of Lemon-juice.

Take of

Lemon-juice, ſtrained, after the feces have ſubſided, two pints;

Double-refined ſugar, fifty ounces.

Diſſolve the ſugar, that it may be made a ſyrup.

SYRUPUS e SUCCO MALORUM LIMONIORUM.

Edin.

Syrup of Lemon-juice.

Take of

Juice of lemons, ſuffered to ſtand till the feces have ſubſided, and afterwards ſtrained, two pounds and a half.

Double refined ſugar, fifty ounces.

Diſſolve the ſugar in the juice, ſo as to make a ſyrup.

SYRUPUS FRUCTUS MORI.

Lond.

Syrup of Mulberry-juice.

SYRUPUS FRUCTUS RUBI IDÆI.

Lond.

Syrup of Raſpberry-juice.

SYRUPUS FRUCTUS RIBIS NIGRI.

Lond.

Syrup of Black Currants.

These three are directed by the London college to be prepared in the same manner as syrup of lemons, which immediately precedes them.

All these four are very pleasant cooling syrups; and with this intention they are occasionally used in draughts and juleps, for quenching thirst, abating heat, &c. in bilious or inflammatory distempers. They are sometimes likewise employed in gargarisms for inflammations of the mouth and tonsils.

SYRUPUS PAPAVERIS ALBI.

Lond.

Syrup of the White Poppy.

Take of

The heads of white poppies, dried, and the seeds taken out, three pounds and an half;

Double refined sugar, six pounds.

Distilled water, eight gallons.

Slice and bruise the heads, then boil them in the water, to three gallons, in a water-bath saturated with sea salt, and press out the liquor. Reduce this by boiling to about the measure of four pints, and strain it while hot, first through a sieve, then through a thin woollen cloth, and set it aside for twelve hours, that the feces may subside. Boil the liquor, poured off from the feces, to three pints, and dissolve the sugar in it that it may be made a syrup.

SYRUPUS PAPAVERIS ALBI, seu de MECONIO, vulgo DIACODION.

Edin.

Syrup of white Poppies, or *of Meconium*, commonly called *Diacodium*.

Take of

White poppy heads, dried, and freed from the seeds, two pounds;

Boiling water, thirty pounds;

Purest sugar, four pounds.

Macerate the bruised heads in the water for a night; next boil till only one-third part of the liquor remain; then strain it; expressing it strongly. Boil the strained liquor to the consumption of one half, and strain again; lastly, add the sugar, and boil to a syrup.

It may also be made by dissolving in two pounds and a half of simple syrup, one dram of the extract of white poppies.

This syrup, impregnated with the opiate matter of the poppy heads, is given to children in doses of two or three drams; to adults from half an ounce to an ounce and upwards, for easing pain, procuring rest, and answering the other intentions of mild opiates. Particular care is requisite in its preparation, that it may be always made, as nearly as possible, of the same strength; and accordingly the colleges have been very minute in their description of the process.

SYRUPUS PAPAVERIS ERRATICI.

Lond.

Syrup of the red Poppy.

Take of

The fresh flowers of the wild, or red, poppy, four pounds;

Boiling distilled water, four pints and an half.

Put the flowers, by degrees, into the boiling water, in a water-bath, constantly stirring them. After this, the vessel being taken out of the bath, macerate for twelve hours; then press out the liquor, and

and set it apart, that the feces may subside. Lastly, make it into a syrup, with double-refined sugar.

The design of putting the flowers into boiling water in a water-bath is, that they may be a little scalded, so as to shrink enough to be all immerged in the water; without this artifice, they can scarcely be all got in: but they are no longer to be continued over the fire than till this effect is produced, lest the liquor become too thick, and the syrup rendered ropy.

This syrup has been recommended in disorders of the breast, coughs, spitting of blood, pleurisies, and other diseases, both as an emollient and as an opiate. It is one of the lightest of the opiate medicines; and in this respect so weak, that some have doubted of its having any anodyne quality. We indeed presume, that it might be very safely superseded altogether; and accordingly it has now no place either in the Edinburgh pharmacopœia, or some of the best foreign ones, though still retained by the London college.

SYRUPUS ROSÆ.

Lond.

Rose-syrup.

Take of

The dried leaves of the damask rose, seven ounces;

Double-refined sugar, six pounds;

Boiling distilled water, four pints.

Macerate the rose leaves in water for twelve hours, and strain. Evaporate the strained liquor to two pints and an half, and add the sugar, that it may be made a syrup.

SYRUPUS ROSARUM PALLIDARUM.

Edin.

Syrup of pale Roses.

Take of

Pale roses, fresh gathered, one pound;

Boiling water, four pounds;

White sugar, three pounds.

Macerate the roses in the water for a night; then to the liquor strained, and freed from the dregs, add the sugar; and boil them into a syrup.

This syrup may likewise be made from the liquor remaining after the distillation of rose-water, depurated from its feces.

The liquor remaining after the distillation of roses (provided the still has been perfectly clean), is as proper for making this syrup as a fresh infusion; for the distillation only collects those volatile parts which are dissipated in the air while the infusion is boiling to its consistence: This syrup is an agreeable and mild purgative for children, in the dose of half a spoonful, or a spoonful. It likewise proves gently laxative to adults; and with this intention may be of service in costive habits. Its principal use is in solutive glysters.

SYRUPUS e ROSIS SICCIS.

Edin.

Syrup of dry Roses.

Take of

Red roses, dried, seven ounces;

White sugar, six pounds;

Boiling water, five pounds

Infuse the roses in the water for a night, then boil them a little; strain out the liquor, and adding to it the sugar, boil them to the consistence of a syrup.

This syrup is supposed to be mildly astringent: but is principally valued on account of its red colour. The London college have omitted it, having retained others at least equal to it in that respect.

SYRUPUS SCILLITICUS.

Edin.

Syrup of Squills.

Take of

Vinegar of squills, two pounds;
White sugar, three pounds and a half.

Make them into a syrup with a gentle heat.

This syrup was formerly prepared with some spices, intended to alleviate the offensiveness of the squills. But while they had not this effect, they often counteracted the intention in view, and are therefore omitted. It is used chiefly in doses of a spoonful or two, for promoting expectoration, which it does very powerfully.

SYRUPUS SIMPLEX, sive COMMUNIS.

Edin.

Simple or common Syrup.

Take of

Purest sugar, fifteen parts;
Water, eight parts.

Let the sugar be dissolved by a gentle heat.

This preparation is a plain liquid sweet, void of flavour or colour. It is convenient for sundry purposes where these qualities are not wanted, or would be exceptionable.

SYRUPUS SPINÆ CERVINÆ.

Lond.

Syrup of Buckthorn.

Take of

The juice of ripe and fresh buckthorn berries, one gallon;
Ginger, bruised one ounce;
All-spice, powdered, one ounce and an half;
Double-refined sugar, seven pounds.

Set by the juice for some days, that the feces may subside, and strain. Macerate the ginger and all-spice in a pint of the strained juice, for four hours, and strain. Boil away the rest of the juice to three pints; then add that part of the juice in which the ginger and all-spice have been macerated; and, lastly, the sugar, that it may be made a syrup.

SYRUPUS e RHAMNO CATHARTICO seu e SPINA CERVINA.

Edin.

Syrup of Buckthorn.

Take of

The juice of ripe buckthorn berries, depurated, seven pounds and a half;
White sugar, three pounds and a half.

Boil them to the consistence of a syrup.

Both these preparations, in doses of three or four spoonfuls, operate as brisk cathartics. The principal inconveniences attending them are, their being very unpleasant, and their occasioning a thirst and dryness of the mouth and fauces, and sometimes violent gripes: these effects may be prevented by drinking freely of water-gruel, or other warm liquids, during the operation. The ungratefulness of the buckthorn is endeavoured to be remedied in the first of the above prescriptions, by the addition of aromatics, which, however, are scarcely sufficient for that purpose. The second also had formerly an aromatic material for the same intention, a dram of the essential oil of cloves; which being found ineffectual, is now rejected.

SYRUPUS TOLUTANUS.

Lond.

Syrup of Balsam of Tolu.

Take

Take of
The balſam of Tolu, eight ounces;
Diſtilled water, three pints.
Boil for two hours. Mix with the liquor, ſtrained after it is cold, the double refined ſugar, that it may be made a ſyrup.

SYRUPUS BALSAMICUS.

Edin.

Balſamic Syrup.

Take of
Simple ſyrup, juſt made, and warm from the fire, two pounds;
Tincture of Balſam of Tolu, one ounce.
When the ſyrup has grown almoſt cold, ſtir into it the tincture, by little at a time, agitating them well together, till perfectly united.

This laſt method of making the balſamic ſyrup was dropt in one of the preceding editions of the Edinburgh pharmacopœia, on a complaint that the ſpirit ſpoiled the taſte of the ſyrup; which it did in a great degree when the tincture was drawn with malt-ſpirits, the nauſeous oil which all the common malt-ſpirits are accompanied with communicating that quality; and this was particularly the caſe when the ſpirituous part was evaporated from the ſyrup, as was directed in the former edition of the Edinburgh pharmacopœia. Particular care therefore ſhould be taken, that the ſpirit, employed for making the tincture, be perfectly clean, and well rectified from all ill flavour.

The intention of the contrivers of the two foregoing proceſſes ſeems to have been ſomewhat different. In the firſt, the more ſubtile and fragrant parts of the balſam are extracted from the groſſer reſinous matter, and alone retained in the ſyrup: the other ſyrup contains the whole ſubſtance of the balſam in larger quantity. They are both moderately impregnated with the agreeable flavour of the balſam.

In ſome pharmacopœias, a ſyrup of this kind is prepared from a tincture of balſam of Peru, with roſe-water, and a proper quantity of ſugar.

SYRUPUS VIOLÆ.

Lond.

Syrup of Violets.

Take of
The freſh petals of the violet, two pounds;
Boiling diſtilled water, five pints.
Macerate for twenty four hours; afterwards ſtrain the liquor, without preſſing, through thin linen. Add refined ſugar, that it may be made a ſyrup.

SYRUPUS VIOLARUM.

Edin.

Syrup of Violets.

Take of
Freſh violets, one pound;
Boiling water, four pounds.
Pureſt ſugar, ſeven pounds and a half.
Macerate the violets in the water for twenty-four hours in a glaſs, or at leaſt a glazed earthen veſſel, cloſe covered; then ſtrain without expreſſion, and to the ſtrained liquor add the ſugar, powdered, and make into a ſyrup.

This ſyrup is of a very agreeable flavour; and in the quantity of a ſpoonful or two proves to children gently laxative. It is apt to loſe, in keeping, the elegant blue colour, for which it is chiefly valued; and hence ſome have been induced to counterfeit it with materials whoſe colour is more permanent. This abuſe may be readily diſcovered, by adding to a little of the ſuſpected ſyrup any acid or alkaline liquor. If the ſyrup be

genuine, the acid will change its blue colour to a red, and the alkali will change it to a green; but if counterfeit, theſe changes will not happen. It is obvious, from this mutability of the colour of the violet, that the preſcriber would be deceived if he ſhould expect to give any blue tinge to acidulated or alkaliſed juleps or mixtures, by the addition of the blue ſyrup.

SYRUPUS ZINGIBERIS.

Lond.

Syrup of Ginger.

Take of
Ginger, bruiſed, four ounces;
Boiling diſtilled water, three pints.
Macerate for four hours, and ſtrain; then add refined ſugar, that it may be made a ſyrup.

Edin.

Take of
Powdered ginger, three ounces;
Boiling water, four pounds;
Pureſt ſugar, ſeven pounds and a half.
Macerate the ginger in the water in a cloſe veſſel, for twenty-four hours; then to the liquor ſtrained, and freed from the feces, add the powdered ſugar, and make them into a ſyrup.

These are agreeable and moderately aromatic ſyrups, lightly impregnated with the flavour and virtues of the ginger.

SYRUPUS ACIDUS.

Gen.

Acid Syrup.

Take of
Weak ſpirit of vitriol, two drams;
Syrup of lemons, ſix ounces.
Mix them.

Where we wiſh to obtain a ſyrup, not only ſtrongly acidulated, but alſo powerfully aſtringent, this formula may be conſidered as well ſuited to anſwer the purpoſe.

SYRUPUS ALKALINUS.

Gen.

Alkaline Syrup.

Take of
Salt of tartar, three drams;
Simple ſyrup, ſix ounces.
Mix them

In this ſyrup we have in ſome degree the converſe of the preceding; and it may be uſefully employed, either for the deſtruction of acid in the ſtomach, or for the formation of neutral or effervescent mixtures.

SYRUPUS ALLII.

Suec.

Syrup of Garlic.

Take of
The freſh-root of garlic, ſliced, one pound;
Boiling water, two pounds.
Macerate them in a cloſe veſſel for an hour; add to the ſtrained liquor,
Refined ſugar, two pounds.
Boil them to a ſyrup.

This ſyrup formerly held a place in our pharmacopœias, and was recommended for promoting expectoration, in caſes of chronic catarrh, and other affections of the breaſt: But, as well as the oxymel ex alio, it is now baniſhed from them; and there can be little doubt that the ſame intentions may in general be anſwered by leſs diſagreeable medicines. Yet where we wiſh to employ garlic in a watery menſtruum, this formula is perhaps one of the beſt under which it can be exhibited.

SYRUPUS

SYRUPUS AMYGDALINUS.

Suec.

Syrup of Almonds.

Take of

Sweet almonds, one pound;
Bitter almonds, two drams.

Let the almonds be blanched and beat in a ſtone mortar, with a wooden peſtle; then by degrees add barley-water, two pounds; ſtrain the liquor, and form it into a ſyrup, with as much double-refined ſugar as may be neceſſary.

THE agreeable flavour of the almonds, is in this formula communicated to a ſyrup, which may be advantageouſly employed to ſweeten mixtures, or to form a pleaſant drink when diffuſed in water; and the flavour is not a little improved by the addition of the proportion of bitter almonds here directed. But even theſe cannot be ſuppoſed to communicate any active quality to this ſyrup, as they are employed in ſo ſmall a quantity; and ſtill leſs is to be expected from the ſweet almonds, which can communicate little more to the ſyrup than their mild oil.

SYRUPUS CINNAMOMI.

Roſs.

Syrup of Cinnamon.

Take of

Cinnamon, bruiſed, five ounces;
Spirituous cinnamon-water, two pounds.

Digeſt them in a cloſe glaſs veſſel for twenty-four hours; then add to the ſtrained liquor double-refined ſugar, three pounds; boil it to a ſyrup.

THIS ſyrup is ſtrongly impregnated with the cinnamon; and where we wiſh to ſweeten any mixture, at the ſame time adding to it an agreeable aromatic, it is perhaps one of the beſt articles we can employ.

SYRUPUS EMETICUS.

Brun.

Emetic Syrup.

Take of

Glaſs of antimony, finely powdered, two drams;
Rheniſh wine, twelve ounces.

Let them be digeſted for three days in a gentle heat, then ſtrain the liquor through paper, and mix with the ſtrained liquor thirty ounces of double-refined ſugar. Let it be formed into a ſyrup and kept in a cloſe veſſel.

THERE can be no doubt of this ſyrup being ſtrongly impregnated with the emetic quality of the antimony; and it will at leaſt have ſo far the advantage of being very agreeable to the taſte, that it may be readily taken by very young people. But every good effect to be obtained from it may be had with more certainty, by adding to ſimple ſyrup any quantity that may be thought neceſſary of the tartarus antimonialis, previouſly diſſolved in a ſmall proportion of water.

SYRUPUS HYDRARGYRI.

Suec.

Syrup of Quickſilver.

Take of

Purified quickſilver, one dram;
Gum arabic, three drams;
Roſe water, as much as ſufficient for reducing the gum to a mucus.

Let them be rubbed in a mortar, till the quickſilver totally diſappears; then by degrees mix with it ſimple ſyrup four ounces.

IN this we have a preparation ſimilar to the mercurial ſolution of Dr Plenck, formerly mentioned; and which

which, while it does not poſſeſs any other advantage than mere ſweetneſs of taſte, is liable to the objections formerly urged againſt that preparation.

CHAP. XXIV.

MELLA MEDICATA.

MEDICATED HONEYS.

THE more fixed parts of vegetables, diſſolved in watery liquors, may be thence transferred into honey, by mixing the honey with the watery decoction or juice of the plant, and boiling them together till the aqueous part has exhaled, and the honey remains of its original conſiſtence. Honey has not probably however, any very peculiar advantage over ſugar; and it is liable to many inconveniences which ſugar is free from: in particular, it is much more liable to run into fermentation, and in many conſtitutions produces gripes, and often violent effects: The Edinburgh college have therefore rejected the whole of the oxymels from their laſt edition of the pharmacopœia. And the number of preparations with honey in moſt of the foreign pharmacopœias is now much diminiſhed. Still, however, there are ſeveral much employed by practioners of eminence; and of courſe retained in the London pharmacopœia.

MEL ROSÆ.
Lond.
Honey of Roſes.

Take of
Dried red-roſe buds, with the heels cut off, four ounces;
Boiling diſtilled water, three pints;
Clarified honey, five pounds.
Macerate the roſe leaves in the water for ſix hours; then mix the honey with the ſtrained liquor, and boil the mixture to the thickneſs of a ſyrup.

THIS preparation is not unfrequently uſed as a mild cooling detergent, particularly in gargariſms for ulcerations and inflammation of the mouth and tonſils. The roſe-buds here uſed ſhould be haſtily dried; the deſign of doing ſo is, that they may the better preſerve their aſtringency.

MEL

MEL SCILLÆ.

Lond.

Honey of Squills.

Take of

Clarified honey, three pounds;
Tincture of squills, two pints.

Boil them in a glass vessel to the thickness of a syrup.

The honey will here be impregnated with all the active parts of the squills which the tincture before contained, and may be employed as an useful expectorant or diuretic.

OXYMEL ÆRUGINIS.

Lond.

Oxymel of Verdegris.

Take of

Prepared verdegris, one ounce;
Vinegar, seven ounces;
Clarified honey, fourteen ounces.

Dissolve the verdegris in the vinegar, and strain it through linen; then add the honey, and boil the whole to a proper thickness.

This is an improvement of what was formerly known in our pharmacopœias under the title of *Mel Ægyptiacum*; which, however, was, as then prepared, very uncertain with respect to strength. It is used only externally for cleansing foul ulcers, and keeping down fungous flesh. It is also often serviceable in venereal ulcerations of the mouth and tonsils: But there is some danger from its application to places from the situation of which it is apt to be swallowed; for even a small quantity of verdegris passing into the stomach may be productive of distressing, if not deleterious, effects.

OXYMEL COLCHICI.

Lond.

Oxymel of Meadow Saffron.

Take of

The fresh root of meadow-saffron, cut into thin slices, one ounce;
Distilled vinegar, one pint;
Clarified honey, two pounds.

Macerate the root of meadow-saffron, with the vinegar, in a glass vessel, with a gentle heat, for forty-eight hours. Strain the liquor, pressed out strongly from the root, and add the honey. Lastly, boil the mixture, frequently stirring it with a wooden spoon, to the thickness of a syrup.

This oxymel may be considered as very analogous to the syrupus colchici of which we have already made some observations. Under this form it was first introduced by Dr Stoerk. And although with certain constitutions the syrup is unquestionably preferable, yet it well deserves a place in our pharmacopœias, as being an active medicine.

OXYMEL SCILLÆ.

Lond.

Oxymel of Squills.

Take of

Clarified honey, three pounds;
Vinegar of squills, two pints.

Boil them in a glass vessel, with a slow fire, to the thickness of a syrup.

The honey was formerly employed for this preparation unclarified, and the scum, which in such cases arises in the boiling, taken off; by this means the impurities of the honey were discharged; but some of the medicinal parts of the squills, with which the vinegar was impregnated, were also separated. For this reason the college of London have now judiciously ordered the honey for all these kinds of preparations to be previously clarified by itself.

Oxymel of squills is an useful a-

perient, detergent, and expectorant, and of great service in humoral asthmas, coughs, and other disorders where thick phlegm abounds. It is given in doses of two or three drams, along with some aromatic water, as that of cinnamon, to prevent the great nausea which it would otherwise be apt to excite. In large doses, it proves emetic.

OXYMEL SIMPLEX.

Lond.

Simple Oxymel.

Take of

Clarified honey, two pounds;
Distilled vinegar, one pint.

Boil them in a glass vessel, with a slow fire, to the thickness of a syrup.

This preparation may be considered as analogous to the syrupus aceti of the Edinburgh pharmacopœia. It is not inferior in efficacy to many more elaborate compositions. It is an agreeable, mild, cooling medicine. It is often used in cooling, detergent, gargarisms, and not unfrequently as an expectorant.

OXYMEL ex ALLIO.

Dan.

Oxymel of Garlic.

Take of

Garlic, cut in slices, an ounce and a half;
Caraway seeds,
Sweet fennel seeds, each two drams;
Clarified honey, ten ounces;
Vinegar, half a pint.

Boil the vinegar for a little time, with the seeds bruised, in a glazed earthen vessel; then add the garlic, and cover the vessel close when grown cold, press out the liquor, and dissolve in it the honey by the heat of a water-bath.

This oxymel is recommended for attenuating viscid juices, promoting expectoration, and the fluid secretions in general. It is doubtless a medicine of considerable efficacy, though very unpleasant, the flavour of the garlic prevailing, notwithstanding the addition of the aromatic seeds.

OXYMEL PECTORALE.

Brun.

Pectoral Oxymel.

Take of

Elecampane roots, one ounce;
Orris root, half an ounce;
Gum ammoniacum, one ounce;
Vinegar, half a pint;
Clarified honey, one pound;
Water, three pints.

Let the roots, cut and bruised, be boiled in the water till one-third is wasted: then strain off the liquor; let it stand to settle; and having poured it off clear from the feces, add to it the honey and the ammoniac, previously dissolved in the vinegar. Mix them together, by gently boiling them.

The title of this composition expresses its medical virtues. It is designed for those disorders of the breast that proceed from a load of viscid phlegm and obstructions of the pulmonary vessels. Two or three spoonfuls may be taken every night and morning, and continued for some time.

CHAP.

CHAP. XXV.

PULVERES.

POWDERS.

THIS form receives such materials only as are capable of being sufficiently dried to become pulverisable, without the loss of their virtue. There are many substances, however, of this kind, which cannot be conveniently taken in powder: bitter, acrid, fetid drugs, are too disagreeable: emollient and mucilaginous herbs and roots are too bulky: pure gums cohere, and become tenacious in the mouth; fixt alkaline salts liquefy on exposing the composition to the air; and volatile alkalies exhale. Many of the aromatics, too, suffer a greater loss of their odorous principle when kept in powder; as in that form they no doubt expose a much larger surface to the air.

The dose of powders, in extemporaneous prescription, is generally about half a dram: it rarely exceeds a whole dram; and is not often less than a scruple. Substances which produce powerful effects in smaller doses are not trusted to this form, unless their bulk be increased by additions of less efficacy; those which require to be given in larger ones are better fitted for other forms.

The usual vehicle for taking the lighter powders, is any agreeable thin liquid. The ponderous powders, particularly those prepared from metallic substances, require a more consistent vehicle, as syrups; for from thin ones they soon subside. resinous substances likewise are most commodiously taken in thick liquors: in thin ones, they are apt to run into lumps, which are not easily again soluble.

General Rules for making Powders.

I.

Particular care ought to be taken that nothing carious, decayed, or impure, be mixed in the composition of powders: the stalks and corrupted parts of plants are to be separated.

II.

The dry aromatics ought to be sprinkled, during their pulverization, with a few drops of any proper water.

III.

The moister aromatics may be dried with a very gentle heat, before they are committed to the mortar.

IV.

Gums, and such other substances as are difficultly pulverisable, should be pounded along with the drier ones, that they may pass the sieve together.

V.

No part should be separated for use, until the whole quantity put into the mortar has passed the sieve, and the several siftings mixed together; for those parts of the subject, which are first powdered, may prove different, at least in degree of efficacy, from the rest.

VI.

Powders of aromatics are to be prepared only in small quantities at a time, and kept in glass vessels very closely stopt.

If powders are long kept, and not carefully secured from the air, their virtue is in a great measure destroyed, altho' the parts in which it consists should not in other circumstances prove volatile. Thus, though the virtues of ipecacuanha are so fixt as to remain entire even in extracts made with proper menstrua, yet if the powdered root be exposed for a long time to the air, it loses its emetic quality.

PULVIS ALOETICUS.

Lond.

Aloetic Powder.

Take of

Socotorine aloes, one pound;
White canella, three ounces.

Rub them separately to powder, and then mix them.

This composition has long been known in the shops under the title of *Hiera picra*. It furnishes us with an useful aloetic purgative, the canella operating as a good corrigent for the aloes. But it is more frequently employed as the basis of electuaries, or pills, or of a tincture, which was for a long time distinguished by the appellation of *Sacred tincture*.

PULVIS ALOETICUS CUM FERRO.

Lond.

Aloetic Powder with Iron.

Take of

Socotorine aloes, powdered, an ounce and an half;
Myrrh, powdered, two ounces;
Dry extract of gentian;
Vitriolated iron, of each, in powder, one ounce.

Mix them.

In this powder we have an aloetic and chalybeate conjoined. It consists of nearly the same articles which formerly entered the composition of the Pilulæ Ecphracticæ Chalybeatæ, as they were called; and it is perhaps more frequently employed when brought to the form of pills by means of syrups, than in powder: But in either way it is an useful medicine, and is particularly employed with advantage in cases of obstructed menstruation.

PULVIS ALOETICUS CUM GUAIACO.

Lond.

Aloetic Powder with Guaiacum.

Take of

Socotorine aloes, one ounce and an half;
Gum guaiacum, one ounce;
Aromatic powder, half an ounce.

Rub the aloes and gum guaiacum separately to powder; then mix all the ingredients together.

In the guaiacum, as well as the aloes, we have a warm gummi-resinous purgative; and both are corrected, as well as more minutely divided, from their combination with the aromatics. This therefore furnishes

niſhes us with an uſeful purgative: But when taken only in ſmall doſes, its chief effect is that of promoting perſpiration. It is, however, more frequently employed in the form of pills than in the ſtate of powder; and indeed it conſiſts of nearly the ſame ingredients which conſtituted the Pilulæ aromaticæ of the former edition of the London pharmacopœia.

PULVIS AROMATICUS.
Lond.
Aromatic Powder.

Take of
Cinnamon, two ounces;
Smaller cardamom ſeeds, huſked,
Ginger,
Long pepper, of each one ounce.
Rub them together to a powder.

PULVIS DIAROMA'TON, five SPECIES AROMATICÆ.
Edinb.
Aromatic powder, or *Aromatic Species.*

Take of
Nutmegs,
Leſſer cardamom ſeeds,
Ginger, of each two ounces.
Beat them together into a powder, to be kept in a phial well ſhut.

Both theſe compoſitions are agreeable, hot, ſpicy medicines; and as ſuch may be uſefully taken in cold phlegmatic habits and decayed conſtitutions, for warming the ſtomach, promoting digeſtion, and ſtrengthening the tone of the viſcera. The doſe is from ten grains to a ſcruple and upwards. The firſt is conſiderably the warmeſt. This principally ariſes from the quantity of long pepper which it contains; but it is perhaps to be doubted whether from this article any advantage be derived: and a powder not inferior to either might, we think, be formed by ſubſtituting caſſia for the cinnamon employed by the one college, or the nutmegs by the other.

PULVIS ASARI COMPOSITUS.
Lond.
Compound powder of Aſarabacca.

Take of
The dry leaves of aſarabacca,
Sweet marjoram,
Syrian herb maſtich,
Dry flowers of lavender, of each one ounce.
Powder them together.

PULVIS STERNUTATORIUS, five CEPHALICUS.
Edin.
Sternutatory, or *Cephalic Powder.*

Take of
The leaves of aſarum, three parts;
Marjoram, one part.
Beat them together into a powder.

Though the former of theſe powders be more compounded than the latter, yet they differ very little. They are both agreeable and efficacious errhines, and ſuperior to moſt of thoſe uſually ſold under the name of *herb ſnuff*. They are often employed with great advantage in caſes of obſtinate headach, and of ophthalmias reſiſting other modes of cure. Taken under the form of ſnuff to the extent of five or ſix grains at bed-time, they will operate the ſucceeding day as a powerful errhine, inducing frequent ſneezing, but ſtill more a large diſcharge from the noſe. It is, however, neceſſary, during their operation, to avoid expoſure to cold.

PULVIS e CERUSSA.
Lond.
Powder of Ceruſſe.

Take of
Ceruſſe, five ounces;
Sarocoll, one ounce and an half;
Tra-

Tragacanth, half an ounce.
Rub them together into powder.

This composition is the *Trochisci albi* of Rhazes brought back to its original simplicity with regard to the ingredients, and without the needless trouble of making it into troches. It is employed for external purposes, as in collyria, lotions, and injections, for repelling acrimonious humours; and in inflammations.

PULVIS e CHELIS CANCRORUM COMPOSITUS.

Lond.

Compound Powder of Crabs claws.

Take of
Crabs claws, prepared, one pound;
Chalk,
Red coral, each, prepared, three ounces.
Mix them.

These powders have lost several of their ingredients, without any injury to their virtues; and possibly they would still bear a farther reduction; for the crabs eyes and chalk are by themselves at least as effectual as any composition of them with coral: And perhaps every purpose to be obtained from them may be accomplished by a more simple absorbent, as the Pulvis cretaceus, afterwards to be mentioned, or the powder of the Lapilli cancrorum.

PULVIS CONTRAYERVÆ COMPOSITUS.

Lond.

Compound Powder of Contrayerva.

Take of
Contrayerva, powdered, five ounces;
Compound powder of crabs-claws, one pound and an half.
Mix them.

This powder was formerly directed to be made up into balls with water, and was then called Lapis contrayervæ; a piece of trouble now laid aside as needless, for it was necessary to reduce the balls into powder again before they could be used. Nor did that form contribute, as has been imagined, to their preservation; for it is scarcely to be supposed that the powder will lose more by being kept for a reasonable length of time in a close-stopt glass, than the balls will in the humectation with water, and exsiccation in the air, before they are fit for being put by to keep. This medicine has much better claim to the title of an alexipharmac and sudorific than the foregoing compositions. The contrayerva by itself proves very serviceable in low fevers, where the vis vitæ is weak, and a diaphoresis to be promoted. It is possible, that the crabs-claws are of no farther service than as they divide this powerful ingredient, and make it sit more easily on the stomach.

PULVIS e CRETA COMPOSITUS.

Lond.

Compound Powder of Chalk.

Take of
Prepared chalk, half a pound;
Cinnamon, four ounces;
Tormentil,
Gum arabic, of each, three ounces;
Long pepper, half an ounce.
Powder them separately, and mix them.

PULVIS CRETACEUS.

Edinb.

Chalk Powder.

Take of
White chalk prepared, four ounces:
Nutmeg, half a dram;
Cinnamon, one dram.
Mix and make them into a powder; which may supply the place of the *Cardialgic troches.*

The addition of the aromatics in the above formula, coincides with the general intention of the remedy which is indicated for weakneſs and acidity in the ſtomach; and in looſeneſs from acidity.

PULVIS e CRETA COMPOSITUS CUM OPIO.

Lond.

Compound Powder of Chalk with Opium.

Take of
Compound powder of chalk, eight ounces;
Hard purified, opium, powdered, one dram and an half.
Mix them.

From the addition of the opium this remedy becomes ſtill more powerful than the above in reſtraining diarrhœa.

PULVIS IPECACUANHÆ COMPOSITUS.

Lond.

Compound Powder of Ipecacuanha.

Take of
Ipecacuanha,
Hard purified opium, of each, powdered, one dram;
Vitriolated kali, powdered, one ounce.
Mix them.

PULVIS SUDORIFICUS, ſive DOVERI.

Edin.

Sudorific, or *Dover's Powder.*

Take of
Vitriolated tartar, three drams;
Opium,
Root of ipecacuanha, powdered, of each one ſcruple.
Mix, and grind them accurately together, ſo as to make an uniform powder.

The vitriolated tartar, from the grittineſs of its cryſtals, is perhaps better fitted for tearing and dividing the tenacious opium than any other ſalt; this ſeems to be its only uſe in the preparation. The operator ought to be careful that the opium and ipecacuanha ſhall be equally diffuſed through the whole maſs of powder, otherwiſe different portions of the powder muſt have differences in degree of ſtrength.

The hard purified opium, directed by the London college, is, from this circumſtance, preferable to opium in its ordinary ſtate, employed by the Edinburgh college.

This powder is one of the moſt certain ſudorifics that we know of; and as ſuch, was recommended by Dr Dover as an effectual remedy in rheumatiſm. Modern practice confirms its reputation, not only in rheumatiſm, but alſo in dropſy and ſundry other diſeaſes, where it is often difficult by other means to produce a copious ſweat. The doſe is from five to ten or twelve grains, according as the patient's ſtomach and ſtrength can bear it. It is convenient to avoid much drinking immediately after taking it, otherwiſe it is very apt to be rejected by vomiting before any other effects are produced.

PULVIS e JALAPPA. COMPOSITUS.

Edinb.

Compound Powder of Jalap.

Take of
Jalap root, one ounce;
Cryſtals of tartar, two ounces.
Mix, and diligently grind them together for ſome time, ſo as to form a very fine powder.

The uſe of the cryſtals in this preparation is to break down and divide the jalap into very minute particles, whereby its operation is thought to be meliorated; and on this account the two articles are directed

rected to be pounded together, and not separately. But whether from this circumstance any advantage arises or not, there can be no doubt that this combination furnishes us with a very useful and active purgative, in every case where it is necessary to produce both a full evacuation of the intestinal canal, and a free discharge from the system in general, under the form of catharsis.

PULVIS e MYRRHA COMPOSITUS.

Lond

Compound Powder of Myrrh.

Take of
- Myrrh,
- Dried savin,
- — rue,
- Russian castor, of each, one ounce.

Rub them together into a powder.

This is a reformation of the *Trochisci e myrrha*, a composition contrived by Rhazes against uterine obstructions. It may be taken in any convenient vehicle, or made into boluses, from a scruple to a dram or more, two or three times a-day.

PULVIS OPIATUS.

Lond.

Opiate Powder.

Take of
- Hard purified opium, powdered, one dram;
- Burnt and prepared hartshorn, nine drams.

Mix them.

The hartshorn is here intended merely to divide the opium, and to give it the form of powder, altho' it may perhaps have also some influence in rendering the opium more active from destroying acid in the stomach. But whether in this way it has any effect or not, there can be no doubt that it is a very convenient formula for the exhibition of opium in powder; which on some occasions is preferable to its being given either in a liquid form or in that of pills. As ten grains of this powder contain precisely one of the opium, the requisite dose may be easily adapted to the circumstances of the case. It is often successfully employed as a sweating powder; and has not, like the Pulvis Doveri, the effect of inducing sickness or vomiting.

PULVIS e SCAMMONIO COMPOSITUS.

Lond.

Compound Powder of Scammony.

Take of
- Scammony,
- Hard extract of jalap, of each two ounces;
- Ginger, half an ounce.

Powder them separately, and mix them.

Edin.

Take of
- Scammony,
- Crystals of tartar, of each two ounces;

Mix, and grind them diligently into a powder.

It is much to be regretted, that in the pharmacopœias published by authority in Britain, two compositions should be distinguished by the same name, differing considerably from each other in their nature and degree of activity.

The compound powder of scammony in the last edition of the London pharmacopœia differed considerably from the present: For there, the only addition was calcined hartshorn, intended merely for the division of the scammony. This purpose is still better answered by the crystals of tartar, which at the same time conspire with the operation of the scammony as a purgative. But the

the addition of jalap and ginger, according to the present formula of the London pharmacopœia, gives not only a purgative considerably different, but increases also the heating quality of the medicine, while the cream of tartar has an evident refrigerant power. Both may on occasions be useful, but we think that in most cases the Edinburgh formula will be found preferable.

In editions of our pharmacopœias of still older date, this powder was prepared with another very active ingredient, diaphoretic antimony. It was much celebrated as distinguished by the name of its inventor, being called from its first publisher, PULVIS CORNACHINI. In a former edition of the Edinburgh pharmacopœia it was thus directed to be prepared:

Take of
Diaphoretic antimony,
Cream of tartar,
Scammony, each equal parts.
Make them into a powder.

This may be given to the quantity of a dram or more. In other prescriptions, the tartar and antimonial calx bear nearly the same proportion to the scammony as the calcined hartshorn did in the London pharmacopœia. It appears probable, that neither of these ingredients are of any farther use, than as they divide the texture of the scammony; though Cornachini supposes very considerable advantage from some deobstruent quality in the tartar, whereby the vessels shall be opened, and the noxious humours prepared for expulsion; and from the preparation of antimony, though it have no sensible operation, he expects some share of the same success which sometimes attends the rougher preparations of that mineral.

Both the present formulæ may, however, be considered as possessing all the advantages of the Pulvis Cornachini.

PULVIS e SCAMMONIO CUM ALOE.

Lond.

Powder of Scammony with Aloes.

Take of
Scammony, six drams;
Hard extract of jalap,
Socotorine aloes, of each an ounce and an half;
Ginger, half an ounce.
Powder them separately, and mix them.

In this formula, the combination of scammony, jalap, and aloes, furnishes a very active purgative, which with some intentions at least, may be preferable to either of the preceding. Taken from five to ten grains, it will operate as a purgative, even in cases of obstinate costiveness.

PULVIS e SCAMMONIO CUM CALOMELANE.

Lond.

Powder of Scammony with Calomel.

Take of
Scammony, half an ounce;
Calomel;
Double-refined sugar, of each two drams.
Rub them separately to a powder, and then mix them.

In this formula, we have the scammony in a more simple state, united with such a proportion of calomel as must very considerably aid its purgative power. And accordingly it may be employed with advantage, both in cases of obstinate costiveness, and in dropsical affections, where a considerable discharge is required from the system.

PULVIS e SENNA COMPOSITUS.

Lond.

Compound Powder of Senna.

Take of

Senna,

Cryſtals of tartar, of each two ounces;

Scammony, half an ounce;

Ginger, two drams.

Rub the ſcammony by itſelf, rub the reſt together into a powder, and then mix them all.

This powder is given as a cathartic, in the doſe of two ſcruples, or a dram. The ſpice is added, not only to divide, but to warm the medicine, and make it ſit eaſier on the ſtomach. The ſcammony is uſed as a ſtimulus to the ſenna; the quantity of the latter neceſſary for a doſe, when not aſſiſted by ſome more powerful material, being too bulky to be conveniently taken in this form.

The compoſition of this medicine is now conſiderably ſimplified, by the rejection both of cinnamon and cloves, as the ginger alone is found fully to anſwer the intention in view.

PULVIS STYPTICUS.

Edinb.

Styptic Powder.

Take of

Alum, an ounce and a half;

Gum kino, three drams.

Grind them together into a fine powder.

In former editions of our pharmacopœia, a powder of this kind was directed to be made with alum and dragon's blood, and was long in repute as an aſtringent, under the title of *Pulvis ſtypticus Helvetii*. The gum kino is judiciouſly ſubſtituted for the dragon's blood, as being a much more powerful and certain aſtringent. The chief uſe of this powder is in hæmorrhagies, eſpecially of the uterus.

PULVIS e TRAGACANTHA COMPOSITUS.

Lond.

Compound Powder of Tragacanth.

Take of

Tragacanth, powdered.

Gum Arabic,

Starch, of each an ounce and a half;

Double-refined ſugar, three ounces.

Rub them together into a powder.

This compoſition is ſomewhat ſimplified by the rejection of the marſh-mallow, and liquorice-root, which formerly entered it. But this has not probably produced any diminution of its medical properties. It operates as a mild emollient; and hence becomes ſerviceable in hectic caſes, tickling coughs, ſtranguary, ſome kinds of alvine fluxes, and other diſorders proceeding from a thin acrimonious ſtate of the humours, or an abraſion of the mucus of the inteſtines; they ſoften, and give a greater degree of conſiſtency to the former, and defend the latter from being irritated or excoriated by them. All the ingredients coincide in theſe general intentions. The doſe is from half a dram to two or three drams, which may be frequently repeated.

PULVIS ANTHELMINTICUS.

Gen.

Anthelmintic Powder.

Take of

The flowers of tanſy,

Worm-ſeeds, each three drams;

Sal martis, one dram.

Mix them.

Both the tanſy and worm-ſeed poſ-

poſſeſs a conſiderable degree of anthelmintic power, which is not a little increaſed by the ſalt of ſteel. And from this combination more effect in the expulſion of worms, particularly of the lumbrici, may be expected, than from any of the articles taken by themſelves. This powder may be taken to the extent of half a dram or upwards for a doſe, proportioned to the age and circumſtances of the patient.

PULVIS ANTILYSSUS.

Brun.

Powder againſt the bite of a mad-dog.

Take of

Aſh-coloured ground liverwort, two ounces;

Black pepper, one ounce.

Beat them together into a powder.

The virtue for which this medicine has been celebrated, is expreſſed in its title; the doſe is a dram and a half, to be taken in the morning faſting, in half a pint of cows milk warm, for four mornings together.

At one period it was held, on the recommendation of Dr Mead and other eminent practitioners in very high eſteem. Now, however, it has fallen into ſuch diſrepute, as to be baniſhed from moſt of the modern pharmacopœias.

PULVIS ARI COMPOSITUS.

Suec.

Compound powder of Arum.

Take of

Arum root, freſh dried, two drams;

Yellow water-flag roots,

Burnet ſaxifrage roots, each one dram;

Canella alba, a dram;

Salt of wormwood, one ſcruple.

Beat them into a powder, which is to be kept in a cloſe veſſel.

In former editions of the London pharmacopœia, one of the ingredients in this compoſition was called *Acorus vulgi* or *vulgaris*; a name which has been applied, by different writers, both to *calamus aromaticus*, and to the *gladiolus luteus*, or common yellow water-flag. In this uncertainty, the compounders generally took the former. But as the medicine was firſt contrived by a German phyſician, Birkmann, and as in ſome of the German pharmacopœias, the *acorus vulgaris* is explained to be the water-flag, the Swediſh college have, rather in conformity to the original preſcription, than from any opinion of the virtues of the water-flag (which appears, when the root is dried and powdered, to be very inconſiderable) made choice of this laſt, and expreſſed it by the name which more clearly diſtinguiſhes it from the other. The caution of keeping the powder in a cloſe veſſel is very neceſſary; for if it be expoſed to the air, the alkaline ſalt, imbibing moiſture would run into a liquid ſtate. Two alkaline ſalts have been generally directed; but as they differ from each other only in name, one of them is here juſtly omitted, and ſupplied by a proportional increaſe of the other. Crabs-eyes were originally an article in this compoſition, but probably ſerved little other purpoſe than to increaſe its volume.

Agreeably to the above remark, the college of Edinburgh, in a reviſal of their pharmacopœia, had omitted the crabs-eyes, and continued the former practice of uſing calamus aromaticus for the *acorus vulgaris*. They had likewiſe exchanged the cinnamon for the canella alba; and the alkaline ſalt for a neutral one, better ſuited to the form of a powder. Their formula was as follows:

Take

Take of
Arum roots, newly dried, two ounces;
Calamus aromaticus,
Burnet saxifrage roots, each one ounce;
Canella alba, six drams;
Vitriolated tartar, two drams.
Mix and make them into a powder.

This article, which had formerly a place also in the London pharmacopœia, is still retained in some of the best foreign ones: But it is now altogether rejected from our pharmacopœias.

The *pulvis ari compositus* was originally intended as a stomachic: and in weaknesses and relaxations of the stomach, accompanied with a surcharge of viscid humours, it is doubtless a very useful medicine. It frequently has also good effects in rheumatic cases: the dose may be from a scruple to a dram, two or three times a-day, in any convenient liquor. It should be used as fresh as possible, for its virtue suffers greatly in keeping: the arum root in particular, its capital ingredient, soon loses the pungency, in which its efficacy principally consists.

PULVIS DIGESTIVUS.

Suec.

Digestive Powder.

Take of
Bitter purging salts,
Rhubarb, each equal parts.
Mix them.

In this composition, the salt will brisken the operation of the rhubarb as a cathartic, and the astringency of the latter will tend to increase the tone of the stomach: hence in consequence of evacuating, and at the same time strengthening the alimentary canal, it may be presumed to have considerable influence in promoting digestion.

PULVIS DYSENTERICUS.

Dan.

Dysenteric Powder.

Take of
Rhubarb, one ounce;
Calcined hartshorn, half an ounce;
Gum Arabic, three drams;
Cascarilla bark, two drams.
Mix them, and reduce them to a very fine powder.

Here the rhubarb is combined with another powerful tonic, the cascarilla; and while the calcined hartshorn serves to neutralize acid, the gum arabic will operate as a demulcent. This composition therefore may be very useful in dysenteric cases, after the violence of the disease has been overcome, and when there remains a debilitated and abraded state of the intestinal canal.

PULVIS FUMALIS.

Ross.

Fumigation Powder.

Take of
Olibanum,
Amber,
Mastich, each three parts;
Storax, two parts;
Benzoine,
Labdanum, each one part.
Mix them into a gross powder.

This powder is intended for the purpose of fumigation; and when burnt it gives out a fragrant odour: hence it may be successfully employed for combating disagreeable smells, and counteracting putrid or other noxious vapours diffused in the atmosphere.

PULVIS INFANTUM.

Suec.

Powder for Infants.

Take of
Magnesia alba, one ounce;
Rhubarb, reduced to a very fine powder, one dram.

Let

Let them be mixed.

This powder is very useful for destroying acid, and at the same time restoring the diminished tone of the alimentary canal: hence it is often advantageously employed in cases of diarrhœa, which depend on these morbid conditions. And it is in general a circumstance of considerable advantage, that it does not tend to check looseness very suddenly. It is particularly useful with infants, and hence the origin of the name here affixed to it.

PULVIS NITROSUS.

Suec.

Nitrous Powder.

Take of
Purified nitre, three ounces;
Salt of sorrel, one ounce;
Double refined sugar, ten ounces.
Let them be mixed.

This is a very convenient and agreeable form of exhibiting nitre: for while the sugar serves not only to divide and diffuse it, but also to correct its taste, the salt of sorrel adds to its refrigerant power.

PULVIS PERUVIANUS PURGANS.

Gen.

Purging Peruvian Powder.

Take of
The powder of Peruvian bark, one ounce;
Powder of rhubarb,
Powder of sal ammoniac, each one dram and a half.

It has been imagined by many, that particular advantage resulted from uniting the Peruvian bark with sal ammoniac; and there can be no doubt, that in some cases inconvenience results from the bark, in consequence of its binding the belly. There are therefore circumstances in which the combination here proposed may perhaps be proper: but there is reason to be believe that the benefit of the sal ammoniac is more imaginary than real; and it not unfrequently happens, that we are disappointed of the benefit which might otherwise be derived from the bark, in consequence of its proving even of itself a purgative. Hence, in perhaps a majority of cases, the exhibiting it with the additions here proposed will be rather prejudicial than otherwise.

PULVIS THEBAICUS.

Suec.

Thebaic Powder.

Take of
Opium, half a scruple;
Purified nitre, five scruples and a half;
Refined sugar, one ounce.
Mix them together into a powder.

In this powder those inconveniences which sometimes result from opium may with certain constitutions be corrected, in consequence of the refrigerant power of nitre; and hence it may prove a very useful sedative powder. The sugar is intended merely to give form to the medicine; and in its state of combination, each dram of it contains a grain of opium; so that a practitioner has it in his power easily to regulate the dose according to circumstances.

PULVIS e SPONGIA.

Gen.

Sponge-powder.

Take of
Burnt sponge, powdered,
Common salt, each three drams.
Mix them, and divide into twelve powders.

We have formerly mentioned in the Materia Medica the use of burnt sponge

ſponge in ſcrophulous affections, and particularly in the cure of the bronchocele. It has of late been highly celebrated for theſe purpoſes by Mr Wilmer, under the title of the Coventry remedy. There it was ſometimes employed merely in its pure ſtate, combined with a ſufficient quantity of honey, to form it into a bolus; ſometimes it was given united with calcined cork and pumice ſtone. What advantage, however, it could have derived from theſe additions is difficult to conceive; nor can we readily ſee how it will be improved by the addition of common ſea-ſalt here propoſed: for this may probably lead to new combinations, materially altering the qualities of theſe ſalts which the ſponge itſelf contains; and on which its virtues, as far as it has any, muſt depend. At the ſame time, for any experience which we ourſelves have had, we are inclined to think, that theſe virtues which have been attributed to burnt ſponge are more imaginary than real.

CHAP. XXVI.

TROCHISCI.

TROCHES.

TROCHES and lozenges are compoſed of powders made up with glutinous ſubſtances into little cakes, and afterwards dried. This form is principally uſed for the more commodious exhibition of certain medicines, by fitting them to diſſolve ſlowly in the mouth, ſo as to paſs by degrees into the ſtomach; and hence theſe preſervations have generally a conſiderable proportion of ſugar or other materials grateful to the palate. Some powders have likewiſe been reduced into troches, with a view to their preparation; though poſſibly for no very good reaſons: for the moiſtening, and afterwards drying them in the air, muſt on this account be of greater injury, than any advantage accruing from this form can counterbalance.

General RULES *for making* TROCHES.

I.

THE three firſt rules laid down for making powders, are alſo to be obſerved in the powders for troches.

II.

If the maſs proves ſo glutinous as to ſtick to the fingers in making up, the hands may be anointed with any convenient ſweet or aromatic

romatic oil; or else sprinkled with powder of starch, or of liquorice, or with flour.

III.

In order to thoroughly dry the troches, put them on an inverted sieve, in a shady airy place, and frequently turn them.

IV.

Troches are to be kept in glass vessels, or in earthen ones well glazed.

TROCHISCI AMYLI.

Lond.

Troches of Starch.

Take of
- Starch, an ounce and an half;
- Liquorice, six drams;
- Florentine orris, half an ounce;
- Double refined sugar, one pound and a half.

Rub these to powder, and, by the help of tragacanth, dissolved in water, make troches.

They may be made, if so chosen, without the orris.

TROCHISCI BECHICI ALBI.

Edinb.

White pectoral Troches.

Take of
- Purest sugar, one pound;
- Gum Arabic, four ounces;
- Starch, one ounce;
- Flowers of benzoine, half a dram.

Having beat them all into a powder, make them into a proper mass with rose-water, so as to form troches.

These compositions are very agreeable pectorals, and may be used at pleasure. They are calculated for softening acrimonious humours, and allaying the tickling in the throat which provokes coughing.

Although not only the name but the composition also in the London and Edinburgh pharmacopœias be somewhat different, yet their effects are very much the same.

TROCHISCI GLYCRRHIZÆ.

Lond.

Troches of Liquorice.

Take of
- Extract of liquorice,
- Double-refined sugar, of each ten ounces;
- Tragacanth, powdered, three ounces.

Make troches by adding water.

TROCHISCI BECHICI NIGRI.

Edin.

Black pectoral Troches.

Take of
- Extract of liquorice,
- Gum arabic, each four ounces;
- White sugar, eight ounces.

Dissolve them in warm water, and strain: then evaporate the mixture over a gentle fire till it be of a proper consistence for being formed into troches.

These compositions are designed for the same purposes as the white pectoral troches above described. In foreign pharmacopœias there are some other troches of this kind, under the titles of *Trochisci bechici flavi* and *rubri*; the first are coloured with saffron, the latter with bole armenic. The dissolving and straining the extract of liquorice and gum arabic, as now ordered in the last of the above prescriptions, is a considerable improvement; not only as they are by that means more uniformly mixed than they can well be by beating; but likewise as they are thereby purified from the heterogeneous matters, of which both those drugs have commonly no small admixture.

TROCHISCI BECHICI cum OPIO.

Edinb.

Pectoral Troches with Opium.

Take of

Pure opium, two drams;
Balsam of Peru, one dram;
Tincture of Tolu, three drams.

Grind the opium with the balsam and tincture previously mixed, till it be thoroughly dissolved, then add by degrees,

Of

Common syrup, eight ounces;
Extract of liquorice, softened in warm water, five ounces.

While beating them diligently, gradually sprinkle upon the mixture five ounces of powdered gum arabic. Exsiccate so as to form troches, each weighing ten grains.

The directions for preparing the above troches are so full and particular, that no farther explanation is necessary. Six of the troches prepared in the manner here ordered, contain about one grain of opium. These troches are medicines of approved efficacy in tickling coughs depending on an irritation of the fauces. Besides the mechanical effect of the invisicating matters and involving acrid humours, or lining and defending the tender membranes, the opium, must, no doubt, have a considerable share, by more immediately diminishing the irritability of the parts themselves.

The composition of these troches, however, would perhaps be improved by the omission of the balsam of Peru: for although here directed only in small quantity, yet it gives a taste to the troches which is to many people very disagreeable; and it is at the same time probable, that it adds very little, if any thing, to the efficacy of the medicine.

TROCHISCI e NITRO.

Lond.

Troches of Nitre.

Take of

Purified nitre, powdered, four ounces;
Double-refined sugar, powdered, one pound;
Tragacanth, powdered, six ounces.

With the addition of water, make troches.

TROCHISCI e NITRO.

Edinb.

Troches of Nitre.

Take of

Nitre, purified, three ounces;
Double-refined sugar, nine ounces.

Make them into troches with mucilage of gum tragacanth.

This is a very agreeable form for the exhibition of nitre; though, when the salt is thus taken without any liquid (if the quantity be considerable), it is apt to occasion uneasiness about the stomach, which can only be prevented by large dilution with aqueous liquors. The trochisci e nitro have been said to be employed with success in some cases of difficult deglutition.

TROCHISCI e SULPHURE.

Lond.

Troches of Sulphur.

Take of

Washed flowers of sulphur, two ounces;
Double-refined sugar, four ounces.

Rub them together; and, with the mucilage of quince-seeds, now and then added, make troches.

TROCHISCI e SULPHURE, sive DIASULPHURIS.

Edin.

Troches

Troches of Sulphur.

Take of
Flowers of sulphur, two ounces;
Flowers of benzoine, one scruple;
White sugar, four ounces;
Factitious cinnabar, half a dram.
Beat them together, and add mucilage of gum tragacanth as much as is sufficient.
Mix and make them into troches according to art.

These compositions are to be considered only as agreeable forms for the exhibition of sulphur, no alteration or addition being here made to its virtues; unless that, by the flowers of benzoine in the second prescription, the medicine is supposed to be rendered more efficacious as a pectoral.

The factitious cinnabar seems chiefly intended as a colouring ingredient.

TROCHISCI e CRETA.

Lond.

Troches of Chalk.

Take of
Chalk, prepared, four ounces;
Crabs-claws, prepared, two ounces;
Cinnamon, half an ounce;
Double-refined sugar, three ounces.
These being rubbed to powder, add mucilage of gum Arabic, and make troches.

TROCHISCI e MAGNESIA.

Lond.

Troches of Magnesia.

Take of
Burnt magnesia, four ounces;
Double-refined sugar, two ounces;
Ginger, powdered, one scruple.
With the addition of mucilage of gum Arabic make troches.

These compositions are calculated against that uneasy sensation at the stomach, improperly called the *heartburn*; in which they often give immediate relief, by absorbing and neutralizing the acid juices that occasion this disorder. The absorbent powders here used, are of the most powerful kind. The former has in general the effect of binding, the latter of opening, the belly; and from this circumstance the practitioner will be determined in his choice, according to the nature of the case which he had occasion to treat.

TROCHISCI de MINIO.

Dan.

Red Lead Troches.

Take of
Red lead, half an ounce;
Corrosive sublimate mercury, one ounce;
Crumb of the finest bread four ounces.
Make them up with rose-water, into oblong troches.

These troches are employed only for external purposes as escarotics: they are powerfully such, and require a good deal of caution in their use.

TROCHISCI CATECHU

Brun.

Troches of Catechu.

Take of
Catechu, one ounce;
White sugar-candy, two ounces:
Ambergris,
Musk, each ten grains:
Mucilage of gum tragacanth, as much as is sufficient.
Make them into troches.

This medicine has long been in esteem as a slight restringent; and restringents thus gradually received

into the ſtomach produce better effects that when an equal quantity is taken down at once. Theſe troches would be more palatable, and perhaps not leſs ſerviceable, were the muſk and ambergris omitted.

CHAP. XXVII.

PILULÆ.

PILLS.

TO this form are peculiarly adapted thoſe drugs which operate in a ſmall doſe, and whoſe nauſeous and offenſive taſte or ſmell require them to be concealed from the palate.

Pills diſſolve the moſt difficultly in the ſtomach, and produce the moſt gradual and laſting effects, of all the internal forms. This is, in ſome caſes, of great advantage; in others, it is a quality not at all deſirable; and ſometimes may even be of dangerous conſequence, particularly with regard to emetics; which if they paſs the ſtomach undiſſolved, and afterwards exert themſelves in the inteſtines, operate there as violent cathartics. Hence emetics are among us ſcarcely ever given in pills; and hence to the reſinous and difficultly ſoluble ſubſtances, ſaponaceous ones ought to be added, in order to promote their ſolution.

Gummy reſins, and inſpiſſated juices, are ſometimes ſoft enough to be made into pills, without addition: where any moiſture is requiſite, ſpirit of wine is more proper than ſyrups or conſerves, as it unites more readily with them, and does not ſenſibly increaſe their bulk. Light dry powders require ſyrup or mucilages; and the more ponderous, as the mercurial and other metallic preparations, thick honey, conſerve, or extracts.

Light powders require about half their weight of ſyrup; of honey, about three-fourths their weight; to reduce them into a due conſiſtence for forming pills. Half a dram of the maſs will make ſix or ſeven pills of a moderate ſize.

General RULES *for making* PILLS.

I.

Gums and inſpiſſated juices, are to be firſt ſoftened with the liquid preſcribed: then add the powders, and continue beating them all together, till they be perfectly mixed.

II.

The maſſes for pills are beſt kept in bladders, which ſhould be moiſtened now and then with ſome of the ſame kind of liquid that the maſs was made up with, or with ſome proper aromatic oil.

PI-

PILULÆ ÆTHIOPICÆ.

Edinb.

Ethiopic Pills.

Take of
Quickſilver, ſix drams;
Golden ſulphur of antimony,
Reſin of guaiacum,
Honey, each half an ounce.

Grind the quickſilver with the honey, in a glaſs mortar, until the mercurial globules entirely diſappear; then add the golden ſulphur and guaiacum, with as much mucilage of gum arabic as is ſufficient to make the mixture into a maſs of the proper conſiſtence for forming pills.

These pills are much more efficacious than thoſe of a former edition; the ethiops mineral, there ordered, being exchanged for a more active compoſition. In their preſent form, they reſemble Dr Plummer's pills, deſcribed in the Edinburgh Eſſays, and afterwards to be mentioned. To it they are preferable in one reſpect, that they are leſs apt to run off by ſtool. They are an uſeful alterative both in cutaneous and venereal diſorders. One fourth part of the quantity above preſcribed may be made into ſixty pills; of which from one to four may be taken every night and morning, the patient keeping moderately warm during the whole time that this courſe is continued.

PILULÆ ex ALOE.

Lond.

Pills of Aloes.

Take of
Socotorine aloes, powdered, one ounce;
Extract of gentian, half an ounce;
Syrup of ginger, as much as is ſufficient.

Beat them together.

PILULÆ ALOETICÆ.

Edinb.

Aloetic Pills.

Take of
Socotorine aloes, in powder,
Thick extract of gentian, each two ounces;

Make them into a maſs with ſimple ſyrup.

These pills were formerly directed to be made with Caſtile ſoap; from a notion which Boerhaave and ſome others were very fond of, that ſoap promoted the ſolution of reſinous and ſeveral other ſubſtances in the ſtomach. This, however, ſeems to be a miſtake; and, on the contrary, it is highly probable, that the alkaline part of the ſoap is in moſt inſtances ſeparated from the oily by the acid in the ſtomach; by which decompoſition the ſoap may poſſibly retard inſtead of promoting the ſolution of the aloes. Theſe pills have been much uſed as warming and ſtomachic laxatives: they are very well ſuited for the coſtiveneſs ſo often attendant on people of ſedentary lives. Like other preparations of aloes, they are alſo uſed in jaundice, and in certain caſes of obſtructed menſes. They are ſeldom uſed for producing full purging; but if this be required, a ſcruple or half a dram of the maſs may be made into pills of a moderate ſize for one doſe.

PILULÆ ex ALOE CUM MYRRHA.

Lond.

Pills of Aloes with Myrrh.

Take of
Socotorine aloes, two ounces;
Myrrh,
Saffron, of each one ounce;
Syrup of ſaffron, as much as is ſufficient.

Rub the aloes and myrrh ſeparately

to powder; afterwards beat them all together.

PILULÆ COMMUNES, vulgo RUFI.

Edin.

The common Pills, vulgarly called *Rufus's Pills.*

Take of
Socotorine aloes, two ounces;
Myrrh, one ounce;
Saffron half an ounce.
Beat them into a mass with a proper quantity of syrup.

These pills have long continued in practice, without any other alteration than in the syrup with which the mass is made up, and in the proportion of saffron. In our last Pharmacopœia, the syrup of wormwood was ordered, which is here judiciously exchanged by the London College for that of saffron; this preserving and improving the brightness of colour in the medicine, which is the characteristic of its goodness. The saffron, in the composition which is attributed to Rufus, is equal in quantity to the myrrh; and in these proportions the pill was received in our first Pharmacopœia. As the diminution afterwards made in the saffron was grounded on very absurd reasons, (viz. "lest the former quantity should occasion a "spasmus cynicus,") the London College have now again increased it, and restored the pill to its original form. The virtues of this medicine may be easily understood from its ingredients. These pills, given to the quantity of a half a dram or two scruples, prove considerably cathartic, but they answer much better purposes in smaller doses as laxatives or alteratives.

PILULÆ ex COLOCYNTHIDE cum ALOE, vulgo PILULÆ COCCIÆ.

Edinb.

Colocynth Pills with Aloes, commonly called *Cocciæ.*

Take of
Socotorine aloes,
Scammony, of each two ounces;
Sal polychrest, two drams;
Colocynth, one ounce;
Oil of cloves, two drams.
Reduce the aloes and scammony into a powder with the salt; then let the colocynth, beat into a very fine powder, and the oil be added; lastly, make it into a proper mass with mucilage of gum Arabic.

In these pills we have a very useful and active purgative; and where the simple aloetic pill is not sufficient for obviating costiveness, this will often effectually answer the purpose. Little of their activity can depend upon the salt which enters the composition; but it may assist in dividing the active parts of the other articles, particularly the aloes and scammony. These pills often produce a copious discharge in cases of obstinate costiveness, when taken to the extent only of five or ten grains; but they may be employed in much larger doses. They are, however, seldom used with the view of producing proper catharsis. Half a dram of the mass contains about five grains of the colocynth, ten of the aloes, and ten of the scammony.

PILULÆ e CUPRO.

Edin.

Copper Pills.

Take of
Cuprum ammoniacum, sixteen grains;
Crumb of bread, four scruples;
Spirit of sal ammoniac, as much as is sufficient to form them into a mass, which is to be divided into thirty-two equal pills.

These

These pills had formerly the name of *Pilulæ ceruleæ*, but they are now with greater propriety denominated from the metal which is their basis.

Each of these pills weigh about three grains, and contain somewhat more than half a grain of the cuprum ammoniacum. The above pills seem to be the best form of exhibiting this medicine; for the effects of which, see CUPRUM AMMONIACUM.

PILULÆ e GUMMI.

Lond.

Gum-Pills.

Take of
- Galbanum,
- Opopanax,
- Myrrh,
- Sagapenum, of each one ounce;
- Asafœtida, half an ounce;
- Syrup of saffron, as much as is sufficient.

Beat them together.

PILULÆ GUMMOSÆ.

Edinb.

Gum-pills.

Take of
- Asafœtida,
- Galbanum,
- Myrrh, each one ounce;
- Rectified oil of amber, one dram.

Beat them into a mass with simple syrup.

These pills are designed for antihysterics and emmenagogues, and are very well calculated for answering those intentions; half a scruple, a scruple, or more, may be taken every night or oftener. The fetid pills of our former pharmacopœia were considerably purgative: the purgative ingredients are now omitted, as the physician may easily, in extemporaneous prescription, compound these pills with cathartic medicines, in such proportions as particular cases shall require.

PILULÆ ex HYDRARGYRO.

Lond.

Quicksilver-pills.

Take of
- Purified quicksilver,
- Extract of liquorice, having the consistence of honey, of each two drams,
- Liquorice, finely powdered, one dram.

Rub the quicksilver with the extract of liquorice until the globules disappear; then, adding the liquorice-powder, mix them together.

PILULÆ e HYDRARGYRO, sive MERCURIALES.

Edin.

Mercurial Pills.

Take of
- Quicksilver,
- Honey, each one ounce;
- Crumb of bread, two ounces.

Grind the quicksilver with the honey in a glass mortar till the globules disappear, adding occasionally a little simple syrup, then add the crumb of bread, and beat the whole with water into a mass, which is to be immediately divided into four hundred and eighty equal pills.

The quicksilver was formerly directed to be ground with resin of guaiacum and Castile soap. The former was supposed to coincide with the virtues of the mercury, and the latter was used chiefly to divide the globules of mercury. For this last intention Doctor Saunders found that honey, the substance here ordered by the Edinburgh college, is of all he tried the most effectual: But we would suppose with this gentleman, that something farther is done in this process than the mere division of the mercurial globules, and that part of the quicksilver as it were amalgamated with the

the honey, or brought to a ſtate ſimilar to that in Plenck's ſolution. The ſame effect will take place when the pills are prepared with extract of liquorice now directed by the London college.

The mercurial pill is one of the beſt preparations of mercury, and may in general ſuperſede moſt other forms of this medicine. It is neceſſary to form the maſs immediately into pills, as the crumb ſoon becomes too hard for that purpoſe, Soap was undoubtedly a very improper medium for triturating the mercury; it is not only too hard for that purpoſe, but when the preparation entered the ſtomach, the alkaline part of the ſoap being engaged by the acid in that viſcus, the mercury would in all probability be immediately ſeparated. The honey and bread can only be changed by the natural powers of digeſtion, and can never oppreſs the ſtomach. The doſe of the pills is from two to four or ſix in the day, according to the effects we wiſh to produce.

PILULÆ e JALAPPA.

Edin.

Jalap-pills.

Take of

Extract of jalap, two ounces;
Aromatic powder, half an ounce.

Beat them into a maſs with ſimple ſyrup.

This is an uſeful and active purgative, either for evacuating the contents of the inteſtinal canal, or producing a diſcharge from the ſyſtem in general.

One of the ſame kind, with powdered jalap in ſubſtance inſtead of the extract, is uſed in ſome of our hoſpitals, as a cheap and effectual purge.

PILULÆ PLUMMERI.

Edinb.

Plummer's pill.

Take of

Sweet mercury,
Precipitated ſulphur of antimony, each ſix drams;
Extract of gentian,
White Spaniſh ſoap, each two drams.

Let the mercury be triturated with the ſulphur till they be thoroughly mixed, then add the extract, and form a maſs with ſimple ſyrup.

These pills were recommended to the attention of the public about forty years ago by Dr Plummer, whoſe name they ſtill bear. He repreſented them in a paper which he publiſhed in the Edinburgh Medical Eſſays, as a very uſeful alterative; and on his authority they were at one time much employed; but they are now leſs extenſively uſed than formerly. And although they ſtill retain a place in the Edinburgh pharmacopœia, yet is is probable that every purpoſe to be anſwered by them may be more effectually obtained from the common mercurial pill, or from calomel in a more ſimple ſtate.

PILULÆ ex OPIO.

Lond.

Opium Pills.

Take of

Hard purified opium, powdered, two drams;
Extract of liquorice, one ounce.

Beat them until they are perfectly united.

PILULÆ THEBAICÆ, vulgo PACIFICÆ.

Edinb.

Thebaic, commonly called *Pacific Pills.*

Take of
Opium, half an ounce;
Extract of liquorice, two ounces;
Caſtile ſoap, an ounce and a half;
Jamaica pepper, one ounce.
Soften the opium and extract ſeparately with proof ſpirit, and having beat them into a pulp, mix them; then add the ſoap, and the pepper beat into a powder; and laſtly, having beat them well together, form the whole into a maſs.

THESE two compoſitions, tho' differing in ſeveral particulars, may yet be conſidered as fundamentally very much the ſame. The firſt is a ſimple opiate, in which every five grains of the maſs contains one of opium; and in the opium alone can we ſuppoſe that the activity of the medicine depends.

Although ſome of the the articles contained in the latter compoſition may perhaps be ſuppoſed to operate as corrigentia, yet the former compoſition, which is the moſt ſimple, is in general preferable.

Pills ſimilar to the ſecond were contrived by a chemical emperic, Starkey, and communicated by him to Matthews, under whoſe name they were ſometime ago greatly celebrated. The form here given differs conſiderably from the original, in omitting many ingredients of no great ſervice. Nor indeed are any of the ingredients of much conſequence, except the opium; their quantity being too inconſiderable to anſwer any uſeful purpoſe. Ten grains of the compoſition contain one of opium.

PILULÆ e SCILLA.

Lond.

Squill-pills.

Take of
Freſh dried ſquills, powdered, one dram;
Ginger, powdred,
Soap, of each three drams;
Ammoniacum, two drams;
Syrup of ginger, as much as is ſufficient.
Beat them together.

PILULÆ SCILLITICÆ.

Edin.

Squill-pills.

Take of
Gum ammoniac,
Leſſer cardamom ſeeds, in powder,
Extract of liquorice, each one dram;
Dried root of ſquills, in fine powder, one ſcruple.
Mix, and form them into a maſs with ſimple ſyrup.

THESE are elegant and commodious forms for the exhibition of ſquills, whether for promoting expectoration, or with the other intentions to which that medicine is applied. As the virtue of the compound is chiefly from the ſquills, the other ingredients are often varied in extemporaneous preſcription: and probably no material difference takes place in the two forms here propoſed excepting in the proportion of the ſquills, which in the former conſtitutes one ninth, in the latter one tenth, of the maſs.

PILULÆ STOMACHICÆ.

Edinb.

Stomachic Pills.

Take of
Rhubarb, one ounce;
Socotorine aloes, ſix drams;
Myrrh, half an ounce;
Vitriolated tartar, one dram;
Eſſential oil of mint, half a dram;
Syrup of orange peel, a ſufficient quantity.
Make them into a maſs.

THIS pill is intended for moderately

rately warming and ſtrengthening the ſtomach, and evacuating crude viſcid humours. A ſcruple of the maſs may be taken twice a-day.

PILULÆ BACHERI.

Gen.

Bacher's Pill.

Take of
Extract of black hellebore,
Purified myrrh, each one ounce;
Powder of carduus benedictus, two ſcruples.
Mix them into a maſs according to art, to be dried in the air till it be fit for the formation of pills, each weighing one grain.

These pills have been ſtrongly recommended as a moſt effectual remedy in dropſical caſes, and have been alleged to unite an evacuant and tonic power. Hence they have been conſidered as particularly ſuited to thoſe caſes where remarkable weakneſs and laxity occurs. Under the hands of Mr Bacher the inventor, they acquired ſo great reputation, that after a trial in the military hoſpitals at Paris, the receipt was purchaſed by the French king, and publiſhed by authority. But like many other noſtrums ſince this publication, Bacher's pill has by no means ſupported the reputation which it had when kept a ſecret. The doſe is varied according to circumſtances, from one to thirty pills taken in the courſe of the day.

PILULÆ ex ELATERIO.

Suec.

Pills of Elaterium.

Take of
The pureſt gum ammoniac, two ounces,
Socotorine aloes,
Gamboge, each two drams;
Elaterium half a dram.
Mix them, by means of bitter tincture, into a maſs, and let pills be formed, each weighing 2 grains.

This, as well as the former, is alſo a pill celebrated for the cure of dropſical affections. And the elaterium from which it derives its name, is one of the moſt powerful evacuants in the way of catharſis. Here, however, it is united with ſuch active articles, particularly the gamboge, as muſt make its effect ſomewhat doubtful. And we are inclined to think that a preferable formula for making the Pilulæ ex Elaterio, is to form it into a maſs, with the extract of gentian. This is imagined to have ſome influence as correcting its effect, in exciting ſickneſs. And when each pill is made to contain half a grain of the elaterium, the doſe may be eaſily accommodated to the circumſtances of the patient, one or two pills being taken every hour till they begin to operate.

The elaterium, whether under the form above mentioned, or in the more ſimple ſtate, which has now been ſuggeſted, operates as a very powerful cathartic, often inducing the diſcharge of ſtagnant ſerum, when other remedies are found ineffectual. But it can be exhibited only in thoſe caſes where the patient ſtill retains a conſiderable degree of ſtrength.

PILULÆ FŒTIDÆ.

Suec.

Fetid Pills.

Take of
Aſafœtida,
Caſtor, each a dram and a half;
Salt of amber, half a dram.
Oil of hartſhorn, half a ſcruple;
Make them into a maſs, with tincture of myrrh, to be divided into pills of two grains each.

These, like the gum-pills formerly

merly mentioned, are chiefly used as an antihysteric and antispasmodic medicine; and they are particularly useful in counteracting spasmodic affections of the alimentary canal, especially those connected with flatulence. But the asafœtida is no less successful when exhibited in a more simple state, particularly when formed into pills with an equal quantity of soap, by the aid of simple syrup.

PILULÆ de GAMBOGIA.

Dan.

Gamboge Pills.

Take of
- Socotorine aloes,
- Extract of black hellebore,
- Sweet mercury,
- Gamboge, each two drams;
- Distilled oil of juniper, half a dram;
- Syrup of buckthorn, as much as is sufficient for forming a mass of pills.

From the ingredients of which these pills are constituted, we need hardly remark, that they must prove a very powerful purgative. The gamboge, from which they derive their name, is unquestionably a very active purge. But it is not more so than the mercurius dulcis; and perhaps from an union of these two, as much might be expected as from the more compounded formula here adopted. Yet it is not improbable, that the essential oil of juniper may in some degree operate as a corrigent.

PILULÆ e MERCURIO CORROSIVO ALBO.

Suec.

Pills of corrosive sublimate Mercury.

Take of
- Corrosive sublimate,
- Purified sal ammoniac, each one scruple;
- Distilled water, as much as is sufficient to dissolve them;
- Powder of the root of althea, sixteen scruples;
- Honey, two drams.

Mix them into a mass for the formation of pills, each weighing three grains.

Corrosive sublimate in substance was long considered as being so violent in its effects, that it could not with safety be taken internally; but for a considerable time it has been used with advantage under the form of solution, either in water or spirits. But to both these a considerable objection occurs from their disagreeable brassy taste. This objection is however entirely obviated, by reducing the solution, after it is formed, to a solid mass, by means of crumb of bread, or any proper powder: And by the aid of a little sal ammoniac, the solution may be made in a very small quantity of water; so that less of any solid intermedium will be sufficient to bring it to the form of pills. The formula here directed seems well suited for the purpose intended. Each of the pills contains about an eight of a grain of the corrosive; thus the dose may be easily regulated according to the intention in view. And these pills are not unfrequently employed with advantage, both in combating venereal and cutaneous affections, and for the expulsion of worms from the alimentary canal. With the latter of these intentions, a similar pill was particularly recommended by Dr Gardner, in a paper published in the Edinburgh Physical and Literary Essays. And although not received into our pharmacopœia, it has been frequently used at Edinburgh.

PILULÆ PICEÆ.

Dan.

Tar-pills.

Take any quantity of tar, and mix with it as much powdered elecampane root as will reduce it to a proper thickness for being formed into pills.

The powder here mixed with the tar, though of no great virtue, is nevertheless a very useful addition, not only for procuring it a due consistence, but likewise as it divides the resinous texture of the tar, and thus contributes to promote its solution by the animal juices. In the Edinburgh Infirmary, half a dram of the mass, made into middle-sized pills, is given every morning and evening in disorders of the breast, scurvies, &c.

PILULÆ SAPONACEÆ.

Suec.

Soap-pills.

Take of

Hard white soap, two ounces;
Extract of birch, one ounce.

Let them be formed into a mass, to be divided into pills, each containing three grains.

Although many virtues have been attributed to the birch, yet we are inclined to think, that it here serves little other purpose than to give the form of pills to the soap. And this article, even when taken in small quantity with some constitutions, operates as a gentle laxative. But besides this, it has also been supposed to be highly useful both in cases of jaundice and of calculus. There can, however, be little doubt, that the theories on which it has been inferred, that it may be useful in such complaints, are not well founded; and we may perhaps add, that the use of it even to a great extent, is by no means attended with those consequences which were once alleged to arise from it.

PILULÆ e STYRACE.

Suec.

Storax-pills.

Take of

Strained storax, five scruples;
Extract of liquorice, three drams;
Opium, one dram.

Let the opium, dissolved in wine, be added to the other ingredients, so as to form a mass of proper consistence, to be made into pills, each weighing three grains.

These pills are principally active in consequence of the opium which they contain. And they are chiefly meant with a view to a slow solution in the stomach, and consequently producing more gradual and lasting effects. One grain of opium is contained in seventeen grains of the mass.

CHAP.

CHAP. XXVIII.

ELECTUARIA.

ELECTUARIES.

ELECTUARIES are compoſed chiefly of powders mixed up with ſyrups, &c. into ſuch a conſiſtence, that the powders may not ſeparate in keeping, that a doſe may be eaſily taken up on the point of a knife, and not prove too ſtiff to ſwallow.

Electuaries receive chiefly the milder alterative medicines, and ſuch as are not ungrateful to the palate. The more powerful drugs, as cathartics, emetics, opiates, and the like (except in officinal electuaries to be diſpenſed by weight), are ſeldom truſted in this form, on account of the uncertainty of the doſe; diſguſtful ones, acrids, bitters, fetids, cannot be conveniently taken in it; nor is the form of an electuary well fitted for the more ponderous ſubſtances, as mercurials, theſe being apt to ſubſide in keeping, unleſs the compoſition be made very ſtiff.

The lighter powders require thrice their weight of honey, or ſyrup boiled to the thickneſs of honey, to make them into the conſiſtence of an electuary; of ſyrups of the common conſiſtence, twice the weight of the powder is ſufficient.

Where the common ſyrups are employed, it is neceſſary to add likewiſe a little conſerve, to prevent the compound from drying too ſoon, Electuaries of Peruvian bark, for inſtance, made up with ſyrup alone will often in a day or two grow too dry for taking.

Some powders, eſpecially thoſe of the leſs grateful kind, are more conveniently made up with mucilage than with ſyrup, honey, or conſerve. The three latter ſtick about the mouth and fauces, and thus occaſion the taſte of the medicine to remain for a conſiderable time; while mucilages paſs freely, without leaving any taſte in the mouth. A little ſoft extract of liquorice, joined to the mucilage, renders the compoſition ſufficiently grateful, without the inconveniences of the more adheſive ſweets.

The quantity of an electuary, directed at a time, in extemporaneous preſcription, varies much according to its conſtituent parts, but it is rarely leſs than the ſize of a nutmeg, or more than two or three ounces.

General rules for making electuaries.

I.

The rules already laid down for decoctions and powders in general, are likewise to be observed in making decoctions and powders for electuaries.

II.

Gums, inspissated juices, and such other substances as are not pulverisable, should be dissolved in the liquor prescribed: then add the powders by little and little, and keep the whole briskly stirring, so as to make an equable and uniform mixture.

III.

Astringent electuaries, and such as have pulps of fruit in their composition, should be prepared only in small quantities at a time: For astringent medicines lose much of their virtue on being kept in this form, and the pulps of fruits are apt to become sour.

IV.

The superfluous moisture of the pulps should be exhaled over a gentle fire, before the other ingredients are added to them.

V.

Electuaries, if they grow dry in keeping, are to be reduced to a due consistence, with the addition of a little Canary wine, and not with syrup or honey: by this means, the dose will be the least uncertain; a circumstance deserving particular regard, in those especially which are made up with syrup and contain a proportion of opium.

ELECTUARIUM e CASSIA.

Lond.

Electuary of Cassia.

Take of

The fresh extracted pulp of cassia, half a pound:

Manna, two ounces;

Pulp of tamarinds, one ounce;

Rose-syrup, half a pound,

Beat the manna, and dissolve it over a slow fire in the rose-syrup; then add the pulps; and, with a continued heat, evaporate the whole to the proper thickness of an electuary.

ELECTUARIUM e CASIA, vulgo DIACASIA.

Edinb.

Electuary of Cassia, commonly called *Diacassia.*

Take of

Pulp of cassia fistularis, six ounces;

Pulp of tamarinds,

Manna, each an ounce and a half;

Syrup of pale roses, six ounces;

Having beat the manna in a mortar, dissolve it with a gentle heat in the syrup; then add the pulps, and evaporate them with a regularly continued heat to the consistence of an electuary.

These compositions are very convenient officinals, to serve as a basis for purgative electuaries and other similar purposes; as the pulping a small quantity of the fruits, for extemporaneous prescription, is very troublesome. The tamarinds give them a pleasant taste, and do not subject them, as might be expected, to turn sour. After standing for four months, the composition has been found no sourer than when first made. This electuary likewise is usefully taken by itself, to the quantity of two or three drams occasionally, for gently loosening the belly in costive habits.

ELECTUARIUM e SCAMMONIO.

Lond.

Electuary of Scammony.

Take

Take of
Scammony, in powder one ounce and an half;
Cloves,
Ginger, of each ſix drams.
Eſſential oil of caraway, half a dram;
Syrup of roſes, as much as is ſufficient.
Mix the ſpices, powdered together, with the ſyrup; then add the ſcammony, and laſtly the oil of caraway.

This electuary is a warm, briſk purgative. It is a reform of the *Electuarium caryocoſtinum* of our preceding diſpenſatories, a compoſition which was greatly complained of, as being inconvenient to take, on account of the largeneſs of its doſe. A dram and a half of this, which contains fifteen grains of ſcammony, is equivalent to half an ounce of the other.

ELECTUARIUM e SENNA.

Lond.

Electuary of Senna.

Take of
Senna, eight ounces;
Figs, one pound;
Pulp of tamarinds,
of caſſia,
of prunes, each half a pound;
Coriander ſeeds, four ounces;
Liquorice, three ounces;
Double-refined ſugar, two pounds and an half.
Powder the ſenna with the coriander-ſeeds, and ſift out ten ounces of the mixt powder. Boil the remainder with the figs and liquorice, in four pints of diſtilled water, to one half; then preſs out and ſtrain the liquor. Evaporate this ſtrained liquor to the weight of about a pound and an half; then add the ſugar, and make a ſyrup; add this ſyrup by degrees to the pulps, and laſtly mix in the powder.

ELECTUARIUM LENITIVUM.

Edin.

Lenitive Electuary.

Take of
Pulp of French prunes, one pound;
Pulp of caſia,
Pulp of tamarinds, each two ounces and a half;
Black ſyrup of ſugar, commonly called *molaſſes*, one pound and a half;
Senna leaves in fine powder, four ounces;
Coriander ſeeds in fine powder, half an ounce.
Having boiled the pulps with the ſyrup to the conſiſtence of honey, add the powders, and beat the whole into an electuary.

This electuary, the name of which is with propriety changed by the London college, is now freed from ſome ſuperfluous ingredients which were left in it at former reviſals; viz. polypody root, French mercury leaves, fenugreek ſeeds, and lintſeed. Molaſſes is preferable to either honey or ſugar, as it coincides with the intention, and is not only of itſelf inapt to ferment, but likewiſe prevents ſuch ſubſtances as are this way diſpoſed from running into fermentation.

It is a very convenient laxative, and has long been in common uſe among practitioners. Taken to the quantity of a nutmeg or more, as occaſion may require, it is an excellent laxative for looſening the belly in coſtive habits.

ELEC-

ELECTUARIUM JAPONICUM, vulgo CONFECTIO JAPONICA.

Edinb.

Japonic Electuary, commonly called *Japonic Confection.*

Take of
- Japan earth, four ounces;
- Gum kino, three ounces;
- Cinnamon,
- Nutmeg, each one ounce;
- Opium diffused in a sufficient quantity of Spanish white wine, one dram and a half;
- Syrup of dried roses boiled to the consistence of honey, two pounds and a quarter.

Mix and form them into an electuary.

The ingredients in this electuary seem extremely well chosen, and are so proportioned to one another, that the quantity of opium is the same as in the diascordium of the former pharmacopœias of Edinburgh, viz. one grain in ten scruples. The gum kino, now substituted for the tormentil root, is an excellent improvement in the formula.

ELECTUARIUM JOVIALE.

Brun.

Tin Electuary.

Take of
- Pure tin,
- Quicksilver, each one ounce.

Let them be formed into an amalgam;
- Oyster shells, prepared, one ounce.

Reduce the whole to a powder.

Take of
- This powder,
- Conserve of wormwood, each one ounce, and form an electuary with syrup of mint.

Tin, as we have already had occasion to observe under the article Stannum Pulverisatum, has long been celebrated for the expulsion of tænia. And it is also well known, that in mercury we have one of the most powerful anthelmintics. Such a combination as the present then, might be supposed well suited for the removal of that animal from the alimentary canal; and accordingly it has been alleged, that this electuary has sometimes succeeded after other remedies have failed. It may be taken twice a-day, to the extent of two or three drams for a dose.

ELECTUARIUM GINGIVALE.

Suec.

Electuary for the Gums.

Take of
- Powdered myrrh, three drams;
- Cream of tartar,
- Cochineal, each a dram and a half.

Grind them together in a glass mortar; then add
- Melted honey, four ounces;
- Cloves, in powder, one dram.

Myrrh, particularly under the form of tincture, has long been a favourite application to the gums, when in a spongy or ulcerated state. But the spirituous menstruum there employed, although sometimes favouring the intention in view, in other instances occurs as an objection to its use. In these cases, the benefit to be derived from the myrrh may be obtained from this electuary, which may always be applied with safety, and sometimes with advantage.

ELECTUARIUM e MANNA.

Suec.

Electuary of Manna.

Take of
- Manna,
- Refined sugar, pounded,

Fennel-

Fennel-water, each two ounces.
Strain the mixture, using expreſſion; then add.
Fine powder of the root of florentine orris, one dram;
Freſh drawn almond oil, one ounce.

In this electuary we have a gently emollient laxative, which is very uſeful in theſe caſes, where obſtipation either ariſes from indurated feces, or is ſupported by that cauſe. But its cathartic powers are by no means conſiderable.

ELECTUARIUM NITROSUM.

Gen.

Nitrous Electuary.

Take of
Purified nitre, half an ounce;
Conſerve of roſes, four ounces.
Mix them.

Under this formula, nitre may be introduced to a conſiderable extent, without giving uneaſineſs at ſtomach, while at the ſame time its refrigerant power is combined with the aſtringency of the roſes. From theſe circumſtances it may be advantageouſly employed in different caſes, but particularly in inſtances of hæmoptyſis.

ELECTUARIUM TEREBINTHINATUM.

Suec.

Terebinthinate Electuary.

Take of
Spirit of turpentine, half an ounce;
Honey, one ounce;
Powder of liquorice, as much as is ſufficient for the formation of an electuary.

Under this form, the oil of turpentine may be introduced with leſs uneaſineſs, than perhaps under almoſt any other. And it may thus be employed for different purpoſes, but particularly with a view to its diuretic power. But it has been eſpecially celebrated for the cure of obſtinate rheumatiſms, and above all, for that modification of rheumatiſm which has the name of *iſchias*, and which is found in many inſtances, obſtinately to reſiſt other modes of cure.

LINCTUS LENIENS.

Suec.

Lenient Linctus.

Take of
Gum arabic, bruiſed, two drams;
Cherry-water, half an ounce.
By trituration in a mortar, mix with them.
Almond oil, freſh drawn,
Syrup of almonds, each ſeven ounces.

In this we have a very agreeable emollient linctus, highly uſeful in recent catarrhal affections, for lubricating the throat and fauces. It may be taken at pleaſure to any extent that the ſtomach may eaſily bear.

CHAP.

CHAP. XXIX.

CONFECTIONES.

CONFECTIONS.

ALTHOUGH the London college have separated these from electuaries, yet they differ so little, that in most pharmacopœias they are ranked under the same head. And in that of Edinburgh, there are several articles which have promiscuously the name either of *confection* or *electuary*. But as no inconvenience arises from the separation; and as we have followed the order of the London pharmacopœia in other particulars, it would be improper to deviate from it in this.

CONFECTIO AROMATICA.

Lond.

Aromatic Confection.

Take of

Zedoary, in coarse powder,
Saffron, of each half a pound;
Distilled water, three pints.

Macerate for twenty-four hours; then press and strain. Reduce the strained liquor, by evaporation, to a pint and a half, to which add the following, rubbed to a very fine powder:

Compound powder of crabs-claws, sixteen ounces;
Cinnamon,
Nutmegs, of each two ounces;
Cloves, one ounce;
Smaller cardamom-seeds, husked, half an ounce;
Double-refined sugar, two pounds.

Make a confection.

THIS confection is composed of the more unexceptionable ingredients of a composition formerly held in great esteem, and which was called, from its author, CONFECTIO RALEIGHANA. The original confection was composed of no less than five and twenty particulars; each of which were examined apart, except one, *ros solis*, the flower of which is too small to be gathered in sufficient quantity for the general use of the medicine, and the plant is possessed of hurtful qualities, as is experienced in cattle that feed where it grows. In this examination, many of the extracts came out so very nauseous, that it was impossible to retain them, consistent with any regard to the taste of the composition. But some few, of equal efficacy with any of the rest, being of a tolerable taste and flavour, were compounded in different proportions; and when, after many trials, a composition was approved, the quantity of each material, that would yield the proportion of extract which entered that composition, was calculated,

ted, and from thence the proportions were collected as now set down: after which the compound extract was made, and found to answer expectation. The London college, in the present edition of their pharmacopœia, have still farther simplified this formula, by rejecting the rosemary, juniper, and cardamoms, which formerly entered it.

The confection, as now reformed, is a sufficiently grateful and moderately warm cordial; and frequently given with that intention, from eight or ten grains to a scruple or upwards, in boluses or draughts. The formula might perhaps be still more simplified without any loss. The crabs-claw powder does not appear to be very necessary, and is inserted rather in compliance with the original, than from its contributing any thing to the intention of the medicine; and the following formula of the Edinburgh pharmacopœia seems to us preferable to that of the London, even in its present improved state.

ELECTUARIUM CARDIACUM vulgo CONFECTIO CARDIACA.

Edinb.

Cordial Electuary, commonly called *Cordial Confection.*

Take of
- Conserve of orange-peel, three ounces;
- Preserved nutmegs, an ounce and a half;
- Preserved ginger, six drams;
- Cinnamon, in fine powder, half an ounce;
- Syrup of orange-peel, as much as will form the whole into an electuary.

In the above simple and elegant formula, a number of trifling ingredients are rejected, and those substituted in their place are medicines of approved efficacy. We therefore consider this preparation as an useful remedy for the purposes expressed in its title.

CONFECTIO OPIATA.

Lond.

Confection of Opium.

Take of
- Hard purified opium, powdered, six drams;
- Long pepper,
- Ginger,
- Caraway seeds, of each two ounces;
- Syrup of white poppy, boiled to the consistence of honey, three times the weight of the whole.

Mix the purified opium carefully with syrup gently heated: then add the rest, rubbed to powder.

ELECTUARIUM THEBAICUM.

Edinb.

Thebaic Electuary.

Take of
- Aromatic powder, six ounces;
- Virginian snake-root, in fine powder, three ounces;
- Opium diffused in a sufficient quantity of Spanish white wine, three drams;
- Clarified honey, thrice the weight of the powders.

Mix them, and form an electuary.

These compositions consist of very powerful ingredients, and are doubtless capable of answering every end that can be reasonably expected from the more voluminous Theriaca of Andromachus. The London college also had formerly their Theriaca composed of the less exceptionable ingredients of Andromachus's. But as these medicines have for a long time been chiefly employed for external purposes, by the way of cataplasm, *Theriaca Londinensis* is now omitted, and its

place supplied by a cataplasm composed of a few well-chosen articles, under the name of *Cataplasma e cymino;* of which hereafter. For internal use, none of the theriacas are at present so much regarded as they have been heretofore; practitioners having introduced in their room extemporaneous boluses of Virginian snake-root, camphor, contrayerva, and the like; which answer all their intentions, with this advantage, that they may be given either with or without opium; an ingredient which renders the others prejudicial in cases where they might otherwise be proper.

With regard to the quantity of opium in the foregoing compositions, one grain thereof is contained in thirty-six grains of the Confectio opiata, and in five scruples of the Thebaic electuary. The proportion of opium will vary a little, according to the time that they have been kept; their moisture by degrees exhaling, so as to leave the remainder stronger of the opium than an equal weight was at first. A change of this kind is taken notice of by many writers, but falsely attributed to an imaginary fermentative quality of the ingredients; by which they were supposed, from their multiplicity and contrariety, to be continually exalting and improving the virtues of each other.

A good deal of care is requisite in making these compositions, to prevent the waste which is apt to happen in the pounding, and which would render the proportion of opium to the other ingredients precarious. The intention of dissolving the opium in wine, for these and other electuaries, is, that it may be more uniformly mixed with the rest.

These compositions fully supply the place of two articles, which tho' long banished from the shops, we shall here subjoin; as examples of the amazing height to which composition in medicine had at one time proceeded.

MITHRIDATUM, five CONFECTIO DAMOCRATIS.

Mithridate, or the Confection of Democrates.

Take of

- Cinnamon, fourteen drams;
- Myrrh, eleven drams;
- Agaric,
- Indian nard,
- Ginger,
- Saffron,
- Seeds of mithridate mustard,
- Frankincense,
- Chio turpentine, each ten drams;
- Camels hay,
- Costus, or in its stead Zedoary,
- Indian leaf, or in its stead Mace,
- Stechas,
- Long pepper,
- Hartwort seeds,
- Hypocistis,
- Storax strained,
- Opoponax,
- Galbanum strained,
- Opobalsam, or in its stead expressed oil of nutmegs,
- Ruffian castor, each one ounce;
- Poley mountain,
- Scordium,
- Carpobalsam, or in its stead Cubebs,
- White pepper,
- Candy carrot seed,
- Bdellium strained, each seven drams;
- Celtic nard,
- Gentian root,
- Dittany of Crete,
- Red roses,
- Macedonian parsley seed,
- Lesser cardamom seeds, husked,
- Sweet fennel seed,
- Gum Arabic,

Opium ſtrained, each five drams;
Calamus aromaticus,
Wild valerian root,
Aniſeed,
Sagapenum, ſtrained, each three drams;
Meum athamanticum,
St John's wort.
Acacia, or in its ſtead Terra Japonica,
Bellies of ſkinks, each two drams and a half.
Clarified honey, thrice the weight of all the other ingredients.

Warm the honey, and mix with it the opium diſſolved in wine; melt the ſtorax, galbanum, turpentine, and opobalſam (or expreſſed oil of nutmegs) together in another veſſel, continually ſtirring them about, to prevent their burning; with theſe ſo melted, mix the hot honey, at firſt by ſpoonfuls, and afterwards in larger quantities at a time; when the whole is grown almoſt cold, add by degrees the other ſpices reduced into powder.

THERIACA ANDROMACHI.

Theriaca of Andromachus, or *Venice Treacle.*

Take of
Troches of ſquills, half a pound,
Long pepper,
Opium, ſtrained,
Vipers, dried, each three ounces;
Cinnamon,
Opobalſam, or in its ſtead expreſſed oil of nutmegs, each two ounces;
Agaric,
Florence orris root,
Scordium,
Red roſes,
Navew ſeeds,
Extract of liquorice, each an ounce and a half;
Indian nard,
Saffron,
Amomum,
Myrrh,
Coſtus, or in its ſtead Zedoary,
Camel's hay, each one ounce;
Cinquefoil root,
Rhubarb,
Ginger,
Indian leaf, or in its ſtead Mace,
Dittany of Crete,
Horehound leaves,
Calamint leaves,
Stechas,
Black pepper,
Macedonian parſley ſeed,
Olibanum,
Chio turpentine,
Wild valerian root, each ſix drams,
Gentian root,
Celtic nard.
Spignel,
Poley mountain, St John's wort, Groundpine } leaves,
Germander tops with the ſeed,
Carpobalſam, or in its ſtead Cubebs,
Aniſeed,
Sweet fennel-ſeed,
Leſſer cardamom ſeeds, huſked,
Biſhop's weed, Hartwort, Treacle muſtard } ſeeds,
Hypociſtis
Acacia, or in its ſtead Japan earth,
Gum Arabic,
Storax, ſtrained,
Sagapenum, ſtrained,
Terra Lemnia, or in its ſtead bole armenic, or French bole,
Green vitriol, calcined, each half an ounce;
Small (or in its ſtead, the long) birthwort root,
Leſſer centaury tops,
Candy carrot ſeed,
Opopanax,
Galbanum, ſtrained,

Russia castor.
Jews pitch, or in its stead white amber, prepared,
Calamus aromaticus, each two drams;
Clarified honey, thrice the weight of all the other ingredients.

Let these ingredients be mixed together, after the same manner as directed in making the mithridate.

These celebrated electuaries are often mentioned by medical writers, and may serve as examples of the wild exuberance of composition which the superstition of former ages brought into vogue. The theriaca is a reformation of Mithridate, made by Andromachus physician to Nero: the mithridate itself is said to have been found in the cabinet of Mithridates king of Pontus. The first publishers of this pompous arcanum were very extravagant in their commendations of its virtues; the principal of which was made to consist in its being a most powerful preservative against all kinds of venom; whoever took a proper quantity in a morning, was ensured from being poisoned during that whole day: this was confirmed by the example of its supposed inventor, who, as Celsus informs us, was by its constant use so fortified against the commonly reputed poisons, that none of them would have any effect upon him when he wanted their assistance. But the notions of poisons which prevailed in those ruder ages were manifestly erroneous. Before experience had furnished mankind with a competent knowledge of the powers of simples, they were under perpetual alarms from an apprehension of poisons, and busied themselves in contriving compositions which should counteract their effects, accumulating together all those substances which they imagined to be possessed of any degree of alexipharmac power. Hence proceed the voluminous antidotes which we meet with in the writings of the antient physicians; yet it does not appear, that they were acquainted with any real poison except the cicuta, aconitum, and bites of venonomous animals; and for these they knew of no antidote whatever. Even admitting the reality of the poisons, and the efficacy of the several antidotes separately, the compositions could no more answer the purposes expected from them, than the accumulating of all the medicinal simples into one form could make a remedy against all diseases.

Yet, notwithstanding the absurdity in the original intention of these medicines, and their enormity in point of composition, as they contain several powerful materials, whose virtues, tho' greatly prejudiced, yet are not destroyed, by their multiplicity and contrariety; the compounds have been found, from repeated experience, to produce very considerable effects, as warm opiate diaphoretics.

These compositions might without doubt be lopt of numerous superfluities, without any diminution of their virtues; yet as the effects of them, in their present form, are so well known so much regard has been paid to antient authority, as not to attempt a reformation of that kind. Altho' these forms were originally complex, yet subsequent additions had crept into them. Neither the description in verse of the elder Andromachus, nor the prose explanation of the younger, make any mention of the white pepper afterwards added to the theriaca; and the orris root, in the mithridate of our former pharmacopœias, is also a supernumerary ingredient, not warranted by

by the original: these therefore are rejected. Nor is the asarum in the mithridate grounded on any good authority: the verse it is taken from, is mutilated and corrupt; and the word which some, on conjecture only, suppose to have been asarum, others, also on conjecture, choose to read differently: till some emendation shall be better founded than merely on critical guesses, this single species may be safely passed over without any prejudice to the medicine. None of the antient descriptions afford any other light in this particular; for they either omit this ingredient, and others also, or abound with additions.

Another innovation on both these medicines also took place. In each of these compositions were found both cinnamon and cassia lignea; and it is very evident, from several parts of Galen's works, that the latter was used by the antients only on account of the great difficulty of procuring the other; so that to retain the cassia, now that cinnamon is so common, is a blind following of these writers, without any attention to their meaning: the cassia therefore is now rejected, and half the quantity of cinnamon put in its room; which is the proportion that Galen directs to be observed in substituting the one for the other. It is probable, that the case is the same with regard to the Celtic and the Indian nard; that the first had a place in these compositions, on account of the difficulty of procuring the Indian; for Galen expressly prefers the latter.

There is a material error in regard to the theriaca, which has passed though several editions of our Pharmacopœia; this is, the substituting Roman vitriol for the antient chalcitis, now not certainly known; and, in the catalogue of simples, describing the Roman to be a blue vitriol; whereas the Italian writers are unanimous it is a green vitriol; and were it not, it would not answer to the effects of the chalcitis, which was certainly a chalybeate, and gives the medicine its black colour. What has chiefly occasioned chalcitis to be supposed a cuprcous vitriol, seems to be its name, derived from χαλκος, copper: but it is to be observed, that all vitriols were formerly imagined to proceed from copper, and were named accordingly: the green or martial vitriols are still called by the Germans *kupffer-wasser*, and by us *copperas*. It is probable, that the antient chalcitis was no other than a native martial vitriol, calcined by the heat of those warm climates to a degree of yellowish red or coppery colour: and therefore the common green vitriol, thus calcined by art, very properly supplies its place.

The preparation of these medicines has been somewhat facilitated by omitting the *trochisci cypheos* used in the mithridate, and the *hedychroi* and *viperini* for the theriaca; and inserting their ingredients, after *Zwelffer*'s manner, in the compositions they are intended for. This is done in the theriaca very commodiously; the ingredients in these troches uniting with those in the theriaca itself into unbroken numbers. But to render the numbers equally simple in the mithridate, it was necessary to retrench a few odd grains from some of the articles, and make a small addition to some others. The proportions of the ingredients in the *trochisci cypheos* are adjusted from the original description in Galen; the numbers in our former pharmacopœia being very erroneous.

Both the London and Edinburgh colleges ventured at length to discard these

these venerable reliques. The Edinburgh college at first substituted in their room an elegant and simple form, equivalent to them both in efficacy under the title of Theriaca Edinensis, *Edinburgh Theriaca.* In later editions, however, they have entirely banished the name of *theriaca* from their book, and have put in its place the more elegant composition already mentioned, the Electuarium Thebaicum.

CHAP. XXX.

AQUÆ MEDICATÆ.

MEDICATED WATERS.

WE have already taken notice of many articles which are either dissolved in water or communicate their virtues to it. And in one sense of the word, these may be called *medicated waters.* Sometimes this impregnation is effected by the aid of heat, sometimes without it: and thus are formed decoctions, infusions, and the like. But among those articles referred to in this chapter, there takes place mere watery solution only, and they are used solely with the intention of acting topically in the way of lotion, injection, or at the utmost of gargarism.

AQUA ALUMINIS COMPOSITA.

Lond.

Compound Alum-water.

Take of
Alum,
Vitriolated zinc, of each half an ounce;
Boiling distilled water, two pints.
Pour the water on the salts in a glass vessel, and strain.

THIS water was long known in our shops under the title of *Aqua aluminosa Bateana.*

Bates directed the salts to be first powdered and melted over the fire; but this is needless trouble, since the melting only evaporates the aqueous parts, which are restored again on the addition of the water. This liquor is used for cleansing and healing ulcers and wounds; and for removing cutaneous eruptions, the part being bathed with it hot three or four times a-day. It is sometimes likewise employed as a collyrium; and as an injection in the gonorrhœa and fluor albus, when not accompanied with virulence.

AQUA

AQUA STYPTICA.

Edinb.

Styptic Water.

Take of
Blue vitriol,
Alum, each three ounces;
Water two pounds.
Boil them until the ſalts be diſſolved; then filter the liquor, and add an ounce and a half of vitriolic acid.

This water, though made with the blue in place of the white vitriol, cannot be conſidered as differing very much from the former. It is formed on the ſtyptic, recommended by Sydenham, for ſtopping bleeding at the noſe, and other external hæmorrhages: for this purpoſe cloths or doſſils are to be dipt in the liquor, and applied to the part.

AQUA CUPRI AMMONIATI.

Lond.

Water of ammoniated Copper.

Take of
Lime-water, one pint;
Sal ammoniac, one dram.
Let them ſtand together, in a copper veſſel, till the ammonia be ſaturated.

AQUA SAPPHIRINA.

Edinb.

Sapphire coloured Water.

Take of
Lime-water, newly made, eight ounces;
Sal ammoniac, two ſcruples;
Verdegris, powdered, four grains.
Mix them, and after twenty-four hours ſtrain the liquor.

This is a much more elegant and convenient method than the preceding.

This water is at preſent pretty much in uſe as a detergent of foul and obſtinate ulcers, and for taking away ſpecks or films in the eyes. The copper contributes more to its colour than to its medicinal efficacy; for the quantity of the metal diſſolved is extremely ſmall.

AQUA LITHARGYRI ACETATI COMPOSITA.

Lond.

Compound Water of acetated Litharge.

Take of
Acetated water of litharge, two drams;
Diſtilled water, two pints;
Proof-ſpirit, two drams.
Mix the ſpirit with the acetated water of litharge; then addthe diſtilled water.

This liquor is of the ſame nature with ſolutions of *ſaccharum ſaturni*, and is analogous to the Vegeto-mineral water of Mr Goulard. It is only uſed externally, as a coſmetic againſt cutaneous eruptions, redneſs, inflammation, &c. But even here, it is alleged that it is not altogether void of danger; and that there are examples of its continued employment having occaſioned ſundry ill conſequences. But at the ſame time the very frequent uſe that is made of it with perfect impunity, would lead us to conclude, that in theſe obſervations there muſt be ſome miſtake.

AQUA ZINCI VITRIOLATI CUM CAMPHORA.

Lond.

Water of vitriolated Zinc with Camphor.

Take of
Vitriolated zinc, half an ounce;
Camphorated ſpirit, half an ounce;
Boiling water, two pints.
Mix, and filter through paper.

This is an improved method of forming the Aqua vitriolica camphorata of the former editions of the Lon-

London pharmacopœia. It is used externally as a lotion for some ulcers, particularly those in which it is necessary to restrain a great discharge. It is also not unfrequently employed as a collyrium in some cases of ophthalmia, where a large discharge of watery fluid takes place from the eyes with but little inflammation. But when it is to be applied to this tender organ, it ought at first, at least, to be diluted by the addition of more water.

AQUA VITRIOLICA.
Edin.
Vitriolic Water.

Take of
White vitriol, sixteen grains;
Water, eight ounces;
Weak vitriolic acid, sixteen drops.
Dissolve the vitriol in the water, and then adding the acid, strain through paper.

Where the eyes are watery or inflamed, this solution of white vitriol is a very useful application: the slighter inflammations will frequently yield to this medicine, without any other assistance: in the more violent ones, venesection and cathartics are to be premised to its use.

CHAP. XXXI.

EMPLASTRA.

PLASTERS.

Plasters are composed chiefly of oily and unctuous substances, united with powders into such a consistence, that the compound may remain firm in the cold without sticking to the fingers; that it may be soft and pliable in a low degree of heat, and that by the warmth of the human body it be so tenacious as readily to adhere both to the part on which it is applied, and to the substance on which it is spread.

There is, however, a difference in the consistence of plasters, according to the purposes they are to be applied to: Thus, such as was intended for the breast and stomach should be very soft and yielding; while those designed for the limbs are made firmer and more adhesive. An ounce of expressed oil, an ounce of yellow wax, and half an ounce of any proper powder, will make a plaster of the first consistence; for a hard one, an ounce more of wax, and

and half an ounce more of powder may be added. Plasters may likewise be made of resins, gummy-resins, &c. without wax, especially in extemporaneous prescription: for officinals, these compositions are less proper, as they soon grow too soft in keeping, and fall flat in a warm air.

It has been supposed, that plasters might be impregnated with the specific virtues of different vegetables, by boiling the recent vegetable with the oil employed for the composition of the plaster. The coction was continued till the herb was almost crisp, with care to prevent the matter from contracting a black colour: after which the liquid was strained off, and set on the fire again, till all the aqueous moisture had exhaled. We have already observed, that this treatment does not communicate to the oils any very valuable qualities, even relative to their use in a fluid state: much less can plasters, made with such oils, receive any considerable efficacy from the herbs.

Calces of lead, boiled with oils, unite with them into a plaster of an excellent consistence, and which makes a proper basis for several other plasters.

In the boiling of these compositions, a quantity of water must be added, to prevent the plaster from burning and growing black. Such water, as it may be necessary to add during the boiling, must be previously made hot; for cold liquor would not only prolong the process, but likewise occasion the matter to explode, and be thrown about with violence, to the great danger of the operator: this accident will equally happen on the addition of hot water, if the plaster be extremely hot.

EMPLASTRUM AMMONIACI CUM HYDRARGYRO.

Lond.

Ammoniacum Plaster with Quicksilver.

Take of

Strained ammoniacum, one pound;
Purified quicksilver, three ounces;
Sulphurated oil, one dram, or what is sufficient.

Rub the quicksilver with the sulphurated oil until the globules disappear; then add, by a little at a time, the melted ammoniacum, and mix them.

This is a very well contrived mercurial plaster. The ammoniacum in general affords a good basis for the application of the mercury. In some cases, however, it is not sufficiently adhesive. But this inconvenience, when it does occur, may be readily remedied by the addition of a small quantity of turpentine.

EMPLASTRUM CANTHARIDIS.

Lond.

Plaster of Spanish Flies.

Take of

Spanish flies, one pound;
Wax plaster, two pounds;
Prepared hog's lard, half a pound.

Having melted the plaster and lard, a little before they coagulate sprinkle in the flies, reduced to a very fine powder.

EMPLASTRUM VESICATORIUM.

Edinb.

Blistering plaster, or *Epispastic plaster.*

Take of

Hog's lard,
Yellow wax,
White resin,

Cantharides, each equal weights.
Beat the cantharides into a fine powder, and add them to the other ingredients, previously melted, and removed from the fire.

Both these formulæ are very well suited to answer the intention in view, that of exciting blisters; for both are of a proper consistence, and sufficient degree of tenacity, which are here the only requisites. Cantharides of good quality, duly applied to the skin, never fail of producing blisters. When, therefore, the desired effect does not take place, it is to be ascribed to the flies either being faulty at first, or having their activity afterwards destroyed by some accidental circumstance; such as too great heat in forming, in spreading the plaster, or the like. And when due attention is paid to these particulars, the simple compositions now introduced answer the purpose better than those compound plasters with mustard-seed, black pepper, vinegar, verdegris, and the like, which had formerly a place in our pharmacopœias. It is not however improbable, that the pain of blistering-plasters might be considerably diminished by the addition of a portion of opium, without preventing the good effects otherwise to be derived from them.

EMPLASTRUM CERÆ.

Lond.

Wax-plaster.

Take of
Yellow wax,
Prepared mutton-suet, of each three pounds;
Yellow resin, one pound.
Melt them together, and strain the mixture whilst it is fluid.

EMPLASTRUM CEREUM.

Edinb.

Wax-plaster.

Take of
Yellow wax, three parts;
Mutton-suet, each two parts.
White resin,
Melt them together into a plaster; which supplies the place of melilot plaster.

This plaster had formerly the title of *Emplastrum attrahens*, and was chiefly employed as a dressing after blisters, to support some discharge.

It is a very well contrived plaster for that purpose. It is calculated to supply the place of melilot plaster; whose great irritation, when employed for the dressing of blisters, has been continually complained of. This was owing to the large quantity of resin it contained, which is here on that account retrenched. It would seem that, when designed only for dressing blisters, the resin ought to be entirely omitted, unless where a continuance of the pain and irritation, excited by the vesicatory, is required. Indeed plasters of any kind are not very proper for this purpose: their consistence makes them sit uneasy, and their adhesiveness renders the taking them off painful. Cerates, which are softer and less adhesive, appear much more eligible: the *Ceratum spermatis cæti* will serve for general use; and for some particular purposes, the *Ceratum resinæ flavæ* may be applied.

EMPLASTRUM CUMINI.

Lond.

Cummin plaster.

Take of
The seeds of cummin,
——— caraway,
Bay-berries, of each three ounces;
Burgundy pitch, three pounds;
Yellow wax, three ounces.
Mix, with the melted pitch and wax, the

the reſt of the ingredients, powdered, and make a plaſter.

This plaſter ſtands recommended as a moderately warm diſcutient; and is directed by ſome to be applied to the hypogaſtric region, for ſtrengthening the viſcera, and expelling flatulencies: but it is a matter of great doubt, whether it derives any virtue either from the article from which it is named, or from the caraway or bay-berries which enter its compoſition.

EMPLASTRUM FŒTIDUM, vulgo ANTIHYSTERICUM.

Edinb.

Fetid, commonly called *Antihyſteric-plaſter*.

Take of
- Common plaſter,
- Aſafœtida, ſtrained, each two parts;
- Yellow wax,
- Strained galbanum, each one part.

Mix, and make them into a plaſter.

This plaſter is applied to the umbilical region, or over the whole abdomen, in hyſteric caſes; and ſometimes with good effect; but probably more from its effect as giving an additional degree of heat to the part, than from any influence derived from the fetid gums. It has indeed been alleged, that from the application of this plaſter to the abdomen, the taſte of aſafœtida can be diſtinctly perceived in the mouth; and it is not improbable, that ſome abſorption of its active parts may take place by the lymphatic veſſels of the ſurface; while, at the ſame time, the aſafœtida thus applied muſt conſtantly, in ſome degree, act on the nerves of the noſe. But, in both theſe ways, its influence can be inconſiderable only; and much more effect may be obtained from a very ſmall quantity taken internally. And we are on the whole inclined to think, that the addition of the fetid gums to the common plaſter is here more diſagreeable than uſeful.

EMPLASTRUM LADANI.

Lond.

Ladanum-plaſter.

Take of
- Ladanum, three ounces;
- Frankincenſe, one ounce;
- Cinnamon, powdered,
- Expreſſed oil, called oil of mace, of each half an ounce;
- Eſſential oil of ſpearmint, one dram.

To the melted frankincenſe add firſt the ladanum, ſoftened by heat; then the oil of mace. Mix theſe afterwards with the cinnamon and oil of mint, and beat them together in a warm mortar, into a plaſter. Let it be kept in a cloſe veſſel.

This has been conſidered as a very elegant ſtomach plaſter. It is contrived ſo as to be eaſily made occaſionally (for theſe kinds of compoſitions, on account of their volatile ingredients, are not fit for keeping), and to be but moderately adheſive, ſo as not to offend the ſkin, and that it may without difficulty be frequently taken off and renewed; which theſe ſorts of applications, in order to their producing any conſiderable effect, require to be. But after all, it probably acts more from the mere covering which it gives to the ſtomach, than from any of the articles abounding with eſſential oil which it contains.

EMPLASTRUM LITHARGYRI.

Lond.

Litharge-plaſter.

Take

Take of
Litharge, in very fine powder, five pounds.
Olive-oil, a gallon.
Boil them with a slow fire, in about two pints of water, constantly stirring until the oil and litharge unite, and have the consistence of a plaster. But it will be proper to add more boiling water, if the water that was first added be nearly consumed before the end of the process.

EMPLASTRUM COMMUNE.

Edinb.

Common plaster.

Take of
Litharge, one part.
Oil olive, two parts;
Boil them, adding water, and constantly stirring the mixture till the oil and litharge be formed into a plaster.

The heat in these processes should be gentle, and the matter kept constantly stirring, otherwise it swells up, and is apt to run over the vessel. If the composition proves discoloured, the addition of a little white lead and oil will improve the colour.

These plasters, which have long been known under the name of *Diachylon*, are the common application in excoriations of the skin, slight flesh wounds, and the like. They keep the part soft, and somewhat warm, and defend it from the air, which is all that can be expected in these cases from any plaster. Some of our industrious medicine-makers have thought these purposes might be answered by a cheaper composition, and accordingly have added a large quantity of common whiting and hogs lard: this, however, is by no means allowable, not only as it does not stick so well, but likewise as the lard is apt to grow rancid and acrimonious. The counterfeit is distinguishable by the eye.

EMPLASTRUM LITHARGYRI CUM GUMMI.

Lond.

Litharge-plaster with Gum.

Take of
Litharge-plaster, three pounds;
Strained galbanum, eight ounces;
Turpentine, ten drams;
Frankincense, three ounces.
The galbanum and turpentine being melted with a slow fire, mix with them the powdered frankincense, and afterwards the litharge-plaster melted with a very slow fire, and make a plaster

EMPLASTRUM GUMMOSUM.

Edinb.

Gum-plaster.

Take of
Common plaster, eight parts;
Gum ammoniacum, strained,
Strained galbanum,
Yellow wax, each one part.
Make them into a plaster according to art.

Both these plasters are used as digestives and suppuratives; particularly in abscesses, after a part of the matter has been maturated and discharged, for suppurating or discussing the remaining hard part; but it is very doubtful whether they derive any advantage from the gums entering their composition.

EMPLASTRUM LITHARGYRI CUM HYDRARGYRO.

Lond.

Litharge-plaster with Quicksilver.

Take of
Litharge-plaster, one pound;
Purified quicksilver, three ounces;

Sul-

Sulphurated oil, one dram, or what is sufficient.

Make the plaster in the same manner as the ammoniacum-plaster with quicksilver.

EMPLASTRUM e HYDRARGYRO, five CŒRULEUM.

Edinb.

Mercurial, or blue Plaster.

Take of

Olive oil,

White resin, each one part;

Quicksilver, three parts;

Common plaster, six parts.

Melt the oil and resin together, and when this mixture is cold, let the quicksilver be rubbed with it till the globules disappear; then add by degrees the common plaster, melted, and let the whole be accurately mixed.

These mercurial plasters are looked on as powerful resolvents and discutients, acting with much greater certainty for these intentions than any composition of vegetable substances alone; the mercury exerting itself in a considerable degree, and being sometimes introduced into the habit in such quantity as to affect the mouth. Pains in the joints and limbs from a venereal cause, nodes, tophi, and beginning indurations of the glands, are said sometimes to yield to them.

EMPLASTRUM LITHARGYRI CUM RESINA.

Lond.

Litharge Plaster with Resin.

Take of

Litharge-plaster, three pounds;

Yellow resin, half a pound.

Mix the powdered resin with the litharge plaster, melted with a very slow fire, and make a plaster.

EMPLASTRUM ADHÆSIVUM.

Edinb.

Sticking-plaster.

Take of

Common plaster, five parts;

White resin, one part.

Melt them together, so as to make a plaster.

These plasters are used chiefly as adhesives for keeping on other dressings, &c.

EMPLASTRUM PICIS BURGUNDICÆ.

Lond.

Plaster of Burgundy Pitch.

Take of

Burgungy pitch, two pounds;

Ladanum, one pound;

Yellow resin,

Yellow wax, of each four ounces;

The expressed oil, commonly called the oil of mace, one ounce.

To the pitch, resin, and wax, melted together, add first the ladanum, and then the oil of mace.

This plaster was at one time much celebrated under the title of *Emplastrum cephalicum*, the name which it formerly held in our pharmacopœias. It was applied in weakness or pains of the head, to the temples, forehead, &c. and sometimes likewise to the feet. Schulze relates, that an inveterate rheumatism in the temples, which at times extended to the teeth, and occasioned intolerable pain, was completely cured in two days by a plaster of this kind (with the addition of a little opium) applied to the part, after many other remedies had been tried in vain. He adds, that a large quantity of liquid matter exuded under the plaster in drops, which were so acrid as to corrode the cuticle: but it is probable, that this

was

was much more the effect of the Burgundy pitch than of any other part of the composition; for when applied to very tender skin, it often produces even vesication, and in most instances operates as a rubefacient or emplastrum calidum: and as far as it has any good effect in headach, it is probable that its influence is to be explained on this ground.

EMPLASTRUM SAPONIS.

Lond.

Soap-plaster.

Take of
Soap, half a pound;
Litharge-plaster, three pounds;
Mix the soap with the melted litharge-plaster, and boil them to the thickness of a plaster.

EMPLASTRUM SAPONACEUM.

Edinb.

Saponaceous Plaster.

Take of
Common plaster, four parts;
Gum-plaster, two parts;
Castile soap, scraped, one part.
To the plasters, melted together, add the soap; then boil for a little, so as to form a plaster.

These plasters have been supposed to derive a resolvent power from the soap; and in the last, the addition of the gums is supposed to promote the resolvent virtue of the soap: but it is a matter of great doubt, whether they derive any material advantage from either addition.

EMPLASTRUM THURIS.

Lond.

Frankincense-plaster.

Take of
Frankincense, half a pound;
Dragon's blood, three ounces;
Litharge-plaster, two pounds.
To the melted litharge-plaster add the rest, powdered.

This plaster had formerly in the London pharmacopœia the title of *Emplastrum roborans*, and is a reformation of the complicated and injudicious composition described in former pharmacopœias, under the title of *Emplastrum ad herniam*. Though far the most elegant and simple, it is as effectual for that purpose as any of the medicines of this kind. If constantly worn with a proper bandage, it will, in children, frequently do service; though, perhaps, not so much from any strengthening quality of the ingredients, as from its being a soft, close, and adhesive covering. It has been supposed that plasters composed of styptic medicines constringe and strengthen the part to which they are applied, but on no very just foundation; for plasters in general relax rather than astringe, the unctuous ingredients necessary in their composition counteracting and destroying the effect of the others.

EMPLASTRUM DEFENSIVUM, sive ROBORANS.

Edinb.

Defensive, or *strengthening Plaster.*

Take of
Common plaster, twenty-four parts;
White resin, six parts;
Yellow-wax,
Oil olive, each three parts:
Colcothar of vitriol, eight parts.
Grind the colcothar with the oil, and then add it to the other ingredients previously melted.

This plaster is laid round the lips of wounds and ulcers over the other dressings, for defending them from inflammation and a fluxion of humours; which, however, as Mr Sharp very justly observes, plasters,

on account of their consistence, tend rather to bring on than to prevent. It is also used in weaknesses of the large muscles, as of the loins; and its effects seem to proceed from the artificial mechanical support given to the part which may also be done by any other plaster that adheres with equal firmness.

EMPLASTRUM de BELLADONNA.

Brun.

Deadly Night-shade Plaster.

Take of
- The juice of the recent herb of belladonna,
- Lintseed oil, each nine ounces;
- Yellow wax, six ounces;
- Venice turpentine, six drams;
- Powder of the herb of belladonna, two ounces.

Let them be formed into a plaster according to art.

There can be no doubt, that the belladonna, externally applied, has a very powerful influence, both on the nerves and blood vessels of the part; and thus it has very considerable effect both on the circulation and state of sensibility of the part; and when applied under the form of this plaster, especially in affections of the mammæ and scrotum, it has been said to have very powerful influence in alleviating pain, in discussing tumours, and in promoting a favourable suppuration. It has however been but little employed in this country; and we can say nothing of it from our own experience.

EMPLASTRUM ad CLAVOS PEDUM.

Dan.

Corn Plaster.

Take of
- Galbanum, dissolved in vinegar, and again inspissated, one ounce;
- Pitch, half an ounce;
- Diachylon, or common plaster, two drams.

Let them be melted together; and then mix with them;
- Verdegris, powdered,
- Sal ammoniac, each one scruple;

And make them into a plaster.

Of this plaster, as well as the former, we can say nothing from our own experience. It has been celebrated for the removal of corns, and for alleviating the pain which they occasion; and it is not improbable that it may sometimes have a good effect from the corrosive articles which it contains: but in other cases, from this very circumstance, it may tend to aggravate the pain, particularly in the first instance.

EMPLASTUM e CONIO.

Suec.

Hemlock-plaster.

Take of
- Yellow wax, half a pound;
- Oil olive, four ounces;
- Gum ammoniacum, half an ounce;

After they are melted together, mix with them,
- Powdered herb of hemlock, half a pound.

This corresponds very nearly with the Emplastrum de cicuta cum ammoniaco, which had formerly a place in our pharmacopœias, and was supposed to be a powerful cooler and discutient, and to be particularly serviceable against swellings of the spleen and distentions of the hypochondres. For some time past, it has been among us entirely neglected; but the high resolvent power which Dr Stoerk has discovered in hemlock, and which he found it to exert in this as well as in other forms,

forms, intitle it to further trials. The plaster appears very well contrived, and the additional ingredients well chosen for assisting the efficacy of the hemlock.

EMPLASTRUM CORROSIVUM.

Gen.

Corrosive Plaster.

Take of

Corrosive sublimate mercury, half a dram;

Hogs lard, half an ounce;

Yellow wax, two drams.

Mix them according to art.

There can be no doubt that the hydrargyrus muriatus here employed is a very powerful corrosive; and there may be some cases in which it is preferable to other articles of the tribe of caustics: But this would seem to be a very uneconomical mode of applying it, as but a very small portion of what enters the plaster can act; and even that portion must have its action much restrained by the unctuous matters with which it is combined.

EMPLASTRUM e FŒNUGRÆCO, vulgo de MUCILAGINIBUS.

Gen.

Plaster of Fenugreek, or of Mucilages.

Take of

Fenugreek-seed, two ounces;

Linseed-oil, warm, half a pound.

Infuse them according to art, and strain; then,

Take of

Yellow wax, two pounds, and a half;

Gum ammoniacum, strained, six ounces;

Turpentine, two ounces.

Melt the gum ammoniacum with the turpentine, and by degrees add the oil and wax, melted in another vessel, so as to form a plaster.

This plaster had formerly a place in our pharmacopœias, but was rejected; and although still held in esteem by some, it is probably of no great value; at least, it would seem to derive but little either from the fenugreek seed, with which it is now made, or from the oil and mucilages which formerly entered its composition.

EMPLASTRUM ex HYOSCYAMI.

Succ.

Henbane-plaster.

This is directed to be prepared in the same manner as the emplastrum e conio, or hemlock-plaster.

From the well known sedative power of this plant, as affecting the nervous energy of the part to which it is applied, we might reasonably conclude that good effects may be obtained from it when used under the form of plaster; and accordingly it has been with advantage employed in this manner, for allaying pain and resolving swelling, in cases of scirrhus and cancer.

EMPLASTRUM PICEUM.

Roff.

Pitch-plaster.

Take of

White resin, six ounces;

Ship-pitch, seven ounces;

Yellow wax, five ounces.

Melt them, and form them into a plaster.

Pitch, applied externally, has been supposed to act on two principles, by its warmth and by its adhesive quality. In the former way it may have some effect; but it has much more influence in the latter; and particularly it has thus been

been found to produce a cure in cases of tinea capitis. When a pitch-plaster is applied to the affected part of the hairy scalp, and allowed to remain there for a few days, it becomes so attached to the parts, that it cannot be removed without bringing with it the bulbs of the hair in which the disease is seated: and by this means a radical cure is not unfrequently obtained, after every other remedy has been tried in vain. But the cure is a painful one, and not without danger: for in some instances, inflammations, even of an alarming nature, have been excited by the injury thus done to the parts. Hence this mode of cure is rarely had recourse to till others have been tried without effect: and when it is employed, if the disease be extensive, prudent practitioners direct its application only to a small portion at a time, the size of a crown-piece or so: and after one part is fully cured, by application to another in succession, the affection may be soon completely overcome. With this intention it is most common to employ the pitch in its pure state: but the plaster here directed, while it is no less adhesive, is more manageable and flexible.

CHAP. XXXII.

UNGUENTA ET *LINIMENTA.*

OINTMENTS AND LINIMENTS.

OINTMENTS and liniments differ from plasters little otherwise than in consistence. Any of the officinal plasters, diluted with so much oil as will reduce it to the thickness of stiff honey, forms an ointment: by farther increasing the oil, it becomes a liniment.

In making these preparations, the Edinburgh college direct, that fat and resinous substances are to be melted with a gentle heat; then to be constantly stirred, sprinkling in at the same time the dry ingredients, if any such are ordered, in the form of a very fine powder, till the mixture on diminishing the heat becomes stiff.

It is to be understood that the above general directions are meant to apply to each particular composition contained in the present edition of the Edinburgh Pharmacopœia. It is also to be observed, that where any compositions are ordered, as bases or ingredients of others; the College always refer to those made according to their own formula.

UNGUENTUM ADIPIS SUILLÆ.

Lond.

Ointment of Hog's lard.

Take of

Prepared hog's lard, two pounds;
Rose-water, three ounces.

Beat the lard with the rose-water until they be mixed; then melt the mixture with a slow fire, and set it apart that the water may subside; after which, pour off the lard from the water, constantly stirring until it be cold.

In the last edition of the London pharmacopœia, this was styled *Unguentum simplex*, the name given by the Edinburgh college to the following.

UNGUENTUM SIMPLEX.

Edinb.

Simple Ointment.

Take of

Olive oil, five parts;
White wax, two parts.

Both these ointments may be used for softening the skin and healing chaps. The last is, however, preferable, on account of its being of one uniform consistence. For the same reason it is also to be preferred as the basis of other more compounded ointments.

UNGUENTUM ex ÆRUGINE.

Edinb.

Ointment of Verdegris.

Take of

Basilicon ointment, fifteen parts;
Verdegris, one part.

This ointment is used for cleansing sores, and keeping down fungous flesh. Where ulcers continue to run from a weakness in the vessels of the part, the tonic powers of copper promise considerable advantage.

It is also frequently used with advantage in cases of ophthalmia, depending on scrophula, where the palpebræ are principally affected; but when it is to be thus applied, it is in general requisite that it should be somewhat weakened by the addition of a proportion of simple ointment or hog's lard. An ointment similar to the above, and celebrated for the cure of such instances of ophthalmia, has long been sold under the name of *Smellon's eye-salve.*

UNGUENTUM CALCIS HYDRARGYRI ALBÆ.

Lond.

Ointment of the white calx of Quicksilver.

Take of

The white calx of quicksilver, one dram;
Ointment of hog's lard, one ounce and a half.

Mix, and make an ointment.

This is a very elegant mercurial ointment, and frequently used in the cure of obstinate and cutaneous affections. It is an improvement of the Unguentum e mercurio precipitato of the last London pharmacopœia; the precipitated sulphur being thrown out of the composition, and the quantity of mercury increased.

UNGUENTUM e CALCE ZINCI.

Edinb.

Ointment of calx of Zinc.

Take of

Simple liniment, six parts;
Calx of zinc, one part.

This ointment is chiefly used in affections of the eye, particularly in those cases where redness arises rather from relaxation than from active inflammation.

UN-

UNGUENTUM CANTHARIDIS.

Lond.

Ointment of Spaniſh Flies.

Take of

Spaniſh flies, powdered, two ounces;

Diſtilled water, eight ounces;

Ointment of yellow reſin, eight ounces

Boil the water with the Spaniſh flies to one half, and ſtrain. To the ſtrained liquor add the ointment of yellow reſin. Evaporate this mixture in a water-bath, ſaturated with ſea-ſalt, to the thickneſs of an ointment.

UNGUENTUM EPISPASTICUM ex INFUSO CANTHARIDUM.

Edinb.

Epiſpaſtic Ointment from infuſion of Cantharides.

Take of

Cantharides,

White reſin,

Yellow wax, each one ounce;

Hogs-lard,

Venice turpentine, each two ounces:

Boiling water, four ounces.

Infuſe the cantharides in the water, in a cloſe veſſel, for a night; then ſtrongly preſs out and ſtrain the liquor, and boil it with the lard till the water be conſumed; then add the reſin, wax, and turpentine, and make the whole into an ointment.

These ointments, containing the ſoluble parts of the cantharides, uniformly blended with the other ingredients, are more commodious, in general occaſion leſs pain, and are no leſs effectual in ſome caſes, than the compoſitions with the fly in ſubſtance. This, however, does not uniformly hold; and accordingly the Edinburgh college, with propriety, ſtill retain an ointment containing the flies in ſubſtance.

UNGUENTUM EPISPASTICUM e PULVERE CANTHARIDUM.

Edinb.

Epiſpaſtic Ointment, from powder of Cantharides.

Take of

Baſilicon ointment, ſeven parts;

Powdered cantharides, one part.

This ointment is employed in the dreſſings for bliſters, intended to be made *perpetual* as they are called, or to be kept running for a conſiderable time, which in many chronic, and ſome acute caſes, is of great ſervice. Particular care ſhould be taken, that the cantharides employed in theſe compoſitions be reduced to a very fine powder, and that the mixture be made as equal and uniform as poſſible. But with theſe precautions, there are ſome particular habits in which this ointment operates with even leſs pain than the former, while at the ſame time it is generally more effectual.

UNGUENTUM CERÆ.

Lond.

Wax-ointment.

Take of

White wax, four ounces;

Spermaceti, three ounces;

Olive-oil, one pint.

Stir them, after being melted with a ſlow fire, conſtantly and briſkly, until cold.

This ointment had formerly the title of *Unguentum album* in the London pharmacopœia. It differs very little from the Unguentum ſimplex of the Edinburgh pharmacopœia, and in nothing from the Unguentum ſpermatis ceti of the London pharmacopœia, excepting that in this ointment the proportion

of spermaceti is somewhat less. It is an useful cooling ointment for excoriations and other frettings of the skin.

UNGUENTUM CERUSSÆ ACETATÆ.

Lond.

Ointment of acetated Cerusse.

Take of

Acetated cerusse, two drams;
White wax, two ounces;
Olive-oil, half a pint.

Rub the acetated cerusse, previously powdered, with some part of the olive-oil; then add it to the wax, melted with the remaining oil. Stir the mixture until it be cold.

UNGUENTUM SATURNI.

Edinb.

Saturnine Ointment.

Take of

Simple ointment, twenty parts;
Sugar of lead, one part.

Both these ointments are useful coolers and deiccatives; much superior both in elegance and efficacy to the *nutritum* or *tripharmacum*, at one time very much celebrated.

UNGUENTUM e CERUSSA, vulgo ALBUM.

Edin.

Ointment of Cerusse, commonly called *White Ointment.*

Take of

Simple ointment, five parts;
Cerusse, one part.

This is an useful, cooling, emollient ointment, of great service in excoriations and other similar frettings of the skin. The cerusse has been objected to by some, on a suspicion that it might produce some ill effects, when applied, as these unguents frequently are, to the tender bodies of children. Though there does not seem to be much danger in this external use of cerusse, the addition of it is the less necessary here, as we have another ointment containing a more active preparation of the same metal, the *unguentum saturninum* just mentioned; which may be occasionally mixed with this, or employed by itself, in cases where saturnine applications are wanted.

UNGUENTUM ELEMI.

Lond.

Ointment of Elemi.

Take of

Elemi, one pound;
Turpentine, ten ounces;
Mutton-suet, prepared, two pounds;
Olive-oil, two ounces.

Melt the elemi with the suet; and having removed it from the fire, mix it immediately with the turpentine and oil, after which strain the mixture.

This ointment, perhaps best known by the name of *Linimentum Arcei*, has long been in use for digesting, cleansing, and incarnating; and for these purposes is preferred by some to all the other compositions of this kind.

These, however, are much more processes of nature than of art; and it is much to be doubted, whether it has in reality any influence.

UNGUENTUM HELLEBORI ALBI.

Lond.

Ointment of white Hellebore.

Take of

The root of white hellebore, powdered, one ounce;
Ointment of hog's lard, four ounces;
Essence of lemons, half a scruple.

Mix them, and make an ointment.

White

White hellebore externally applied has long been celebrated in the cure of cutaneous affections; and this is perhaps one of the beſt formulæ under which it can be applied, the hog's-lard ointment ſerving as an excellent baſis for it, while the eſſence of lemons communicates to it a very agreeable ſmell.

UNGUENTUM HYDRARGYRI FORTIUS.

Lond.

Stronger Ointment of Quickſilver.

Take of

Purified quickſilver, two pounds;
Hog's-lard, prepared, twenty-three ounces;
Mutton-ſuet, prepared, one ounce.

Firſt rub the quickſilver with the ſuet and a little of the hog's-lard, until the globules diſappear; then add what remains of the lard, and make an ointment.

UNGUENTUM HYDRARGYRI MITIUS.

Lond.

Weaker Ointment of Quickſilver.

Take of

The ſtronger ointment of quickſilver, one part,
Hog's lard, prepared, two parts.

Mix them.

UNGUENTUM ex HYDRARGYRO, ſive CÆRULEUM.

Edinb.

Quickſilver, or *Blue Ointment.*

Take of

Quickſilver,
Mutton ſuet, each one part:
Hog's lard, three parts.

Rub them carefully in a mortar till the globules entirely diſappear.

This ointment may alſo be made with double or treble the quantity of quickſilver.

Theſe ointments are principally employed, not with a view to their topical action, but with the intention of introducing mercury in an active ſtate into the circulating ſyſtem. And this may be effected by gentle friction on the ſound ſkin of any part, particularly on the inſide of the thighs or legs. For this purpoſe, theſe ſimple ointments are much better ſuited than the more compounded ones with turpentine and the like, formerly employed. For by any acrid ſubſtance topical inflammation is apt to be excited, preventing farther friction, and giving much uneaſineſs. To avoid this, it is neceſſary, even with the mildeſt and weakeſt ointment, ſomewhat to change the place at which the friction is performed. But by theſe ointments properly managed, mercury may in moſt inſtances be as advantageouſly introduced, either for eradicating ſyphilis, or combating other obſtinate diſeaſes, as under any form whatever. But to obtain theſe effects, it is requiſite that the ointment ſhould be prepared with very great care: for upon the degree of triture which has been employed, the activity of the mercury muſt entirely depend. The addition of the mutton ſuet, now adopted by both colleges, is an advantage to the ointment, as it prevents it from running into the ſtate of oil, which the hog's lard alone in warm weather, or in a warm chamber, is ſometimes apt to do, and which is followed by a ſeparation of parts. We are even inclined to think, that the proportion of ſuet directed by the London college is too ſmall for this purpoſe, and indeed ſeems to be principally intended for the more effectual triture of the mercury: But it is much more to be regretted, that in a medicine of ſuch activity, the two colleges ſhould not have directed the ſame proportion of mercury to the fatty matter. For although both have directed oint-

ointments of different ſtrength, neither the weakeſt nor the ſtrongeſt agree in the proportion of mercury which they contain.

UNGUENTUM HYDRARGYRI NITRATI.

Lond.

Ointment of nitrated Quickſilver.

Take of

Purified quickſilver, one ounce;
Nitrous acid, two ounces;
Hog's lard, prepared, one pound.

Diſſolve the quickſilver in the nitrous acid; and, while it is yet hot, mix it with the hog's lard, previouſly melted, and juſt growing cold.

UNGUENTUM CITRINUM.

Edinb.

Yellow Ointment.

Take of

Quickſilver, one ounce;
Spirit of nitre, two ounces;
Hog's lard, one pound.

Diſſolve the quickſilver in the ſpirit of nitre, by digeſtion in a ſand-heat; and, while the ſolution is very hot, mix with it the lard, previouſly melted by itſelf, and juſt beginning to grow ſtiff. Stir them briſkly together, in a marble mortar, ſo as to form the whole into an ointment.

These ointments differ only in name; and that employed by the London college is certainly the preferable appellation: For here the quickſilver, previous to its union with the lard, is brought to a ſaline ſtate by means of the nitrous acid. And although its activity be very conſiderably moderated by the animal fat with which it is afterwards united, yet it ſtill affords us a very active ointment; and as ſuch it is frequently employed with ſucceſs in cutaneous and other topical affections. In this condition, however, the mercury does not ſo readily enter the ſyſtem, as in the preceding form. Hence it may even be employed in ſome caſes with more freedom; but in other inſtances it is apt to excoriate and inflame the parts. On this account a reduction of its ſtrength is ſometimes requiſite; and it is often alſo neceſſary, from the hard conſiſtence which it acquires, in conſequence of the action of acid on the lard.

UNGUENTUM PICIS.

Lond.

Tar Ointment.

Take of

Tar,
Mutton-ſuet, prepared, of each half a pound.

Melt them together, and ſtrain.

UNGUENTUM e PICE.

Edinb.

Ointment of Tar.

Take of

Tar, five parts;
Yellow wax, two parts.

These compoſitions, though the one be formed into an ointment by means of ſuet, the other by wax, cannot be conſidered as differing eſſentially from each other. As far as they have any peculiar activity, this entirely depends on the tar. And this article, from the empyreumatic oil and ſaline matters which it contains, is undoubtedly, as well as turpentine, of ſome activity. Accordingly, it has been ſucceſsfully employed againſt ſome cutaneous affections, particularly thoſe of domeſtic animals. At one time, as well as the black baſilicon, it was a good deal employed as a dreſſing even for recent wounds. But altho' it ſtill retains a place in our pharmacopœias, it is at preſent little uſed with any intention.

UN-

UNGUENTUM RESINÆ FLAVÆ.

Lond.

Ointment of yellow Resin.

Take of
Yellow resin,
Yellow wax, of each one pound;
Olive oil, one pint.
Melt the resin and wax with a slow fire; then add the oil, and strain the mixture while hot.

UNGUENTUM BASILICUM.

Edinb.

Basilicon Ointment.

Take of
Hog's lard, eight parts;
White resin, five parts;
Yellow wax, two parts.

These are commonly employed in dressings, for digesting, cleansing, and incarnating wounds and ulcers. They differ very little, if at all, in their effects, from the *Linimentum Arcæi*, or unguentum elemi, as it is now more properly styled. But it is probable that no great effect is to be attributed to either. For there can be no doubt that the suppurative and adhesive inflammations are processes of nature, which will occur without the aid of any ointment.

UNGUENTUM SAMBUCI.

Lond.

Elder Ointment.

Take of
Elder-flowers, four pounds.
Mutton-suet, prepared, three pounds;
Olive-oil, one pint.
Boil the flowers in the suet and oil, first melted together, till they be almost crisp; then strain with expression.

This ointment does not seem superior to some others, which are much neater, and less expensive. It can scarcely be supposed to receive any considerable virtue from the ingredient from which it takes its name. And, accordingly, it is not without propriety that it is rejected from the pharmacopœia of the Edinburgh college.

UNGUENTUM SPERMATIS CETI.

Lond.

Ointment of Spermaceti.

Take of
Spermaceti, six drams;
White wax, two drams;
Olive-oil, three ounces.
Melt them together over a slow fire, stirring them constantly and briskly until they be cold.

This had formerly the name of *Linimentum album*, and it is perhaps only in consistence that it can be considered as differing from the unguentum simplex, already mentioned, or the ceratum simplex, afterwards to be noticed.

UNGUENTUM SULPHURIS.

Lond.

Sulphur-ointment.

Take of
Ointment of hog's lard, half a pound;
Flowers of sulphur, four ounces.
Mix them, and make an ointment.

UNGUENTUM e SULPHURE, sive ANTIPSORICUM.

Edinb.

Ointment of Sulphur, or *antipsoric Ointment.*

Take of
Hog's lard, four parts;
Sulphur, beat into a very fine powder, one part.
To each pound of this ointment add,
Essence of lemons, or
Oil of lavender, half a dram.

Sul-

Sulphur is a certain remedy for the itch, and safer than mercury. Sir John Pringle observes, that unless a mercurial unction was to touch every part of the skin, there can be no certainty of success; whereas, from a sulphureous one, a cure may be obtained by only partial unction, the animalcula, which are supposed to occasion this disorder, being, like other insects, killed by the sulphureous steams which exhale by the heat of the body. As to the internal use of mercury, which some have accounted a specific, there are several instances of men undergoing a complete salivation for the cure of the lues venerea, without being freed from the itch: but there are also a multitude of instances of men undergoing a long course of sulphur without effect, and who were afterwards readily cured by mercury.

The quantity of ointment, above directed, serves for four unctions: the patient is to be rubbed every night: but to prevent any disorder that might arise from stopping too many pores at once, a fourth part of the body is to be rubbed at one time. Though the itch may thus be cured by one pot of ointment, it will be proper to renew the application, and to touch the parts most affected, for a few nights longer, till a second quantity also be exhausted; and in the worst cases, to subjoin the internal use of sulphur, not with a view to purify the blood, but to diffuse the steams more certainly thro' the skin; there being reason to believe, that the animalcula may sometimes lie too deep to be thoroughly destroyed by external applications.

UNGUENTUM TUTIÆ.

Lond.

Tutty Ointment.

Take of

Prepared tutty, one dram;

Ointment of spermaceti, what is sufficient.

Mix them so as to make a soft ointment.

UNGUENTUM e TUTIA.

Edinb

Ointment of Tutty.

Take of

Simple liniment, five parts;

Prepared tutty, one part.

These ointments have long been celebrated, and are still much employed against affections of the eyes. But they cannot, we imagine, be esteemed elegant.

Both calamine and tutty act only by means of the zinc they contain, and calamine appears to contain the most of the two, and likewise to be the least variable in its contents. But the pure flowers prepared from zinc itself are doubtless preferable to either. Hence the ointment of tutty may be considered as inferior to both to the Unguentum e lapide calaminari, and to the Unguentum e calce zinci, which have also a place in our pharmacopœia.

LINIMENTUM SIMPLEX.

Edinb.

Simple Liniment.

Take of

Olive oil, four parts;

White wax, one part.

This consists of the same articles which form the Unguentum simplex of the Edinburgh pharmacopœia, but merely in a different proportion, so as to give a thinner consistence; and where a thin consistence is requisite, this may be considered as a very elegant and useful application.

LINIMENTUM AMMONIÆ.

Lond

Liniment of Ammonia.

Take

Take of
Water of ammonia, half an ounce;
Olive-oil, one ounce and an half.
Shake them together in a phial, till they are mixed.

This has long been known in the ſhops under the title of Linimentum volatile, but is now more properly denominated from the principal active article, which enters its compoſition. It has been much employed in practice, particularly on the recommendation of Sir John Pringle in his Obſervations on the Diſeaſes of the Army. He obſerves, that in the inflammatory quinſey, or ſtrangulation of the fauces, a piece of flannel, moiſtened with this mixture, applied to the throat, and renewed every four or five hours, is one of the moſt efficacious remedies. By means of this warm ſtimulating application, the neck, and ſometimes the whole body, is put into a ſweat, which, after bleeding, either carries off, or leſſens the inflammation. Where the ſkin cannot bear the acrimony of this mixture, a larger proportion of oil may be uſed.

LINIMENTUM AMMONIÆ FORTIUS.

Lond.

Stronger Liniment of Ammonia.

Take of
Water of pure ammonia, one ounce;
Olive-oil, two ounces.
Shake them together in a phial.

This article differs from the foregoing in ſtrength only. This ariſes both from its being formed of a more acrid ſpirit, and from its containing that ſpirit in a larger proportion to the oil. It is uſed to ſupply the place of the Epithema et Emplaſtrum volatile of our former pharmacopœias, and is a very acrid ſtimulating compoſition. When largely applied, it often excites inflammation, and even veſication, on tender ſkin. It is often, however, ſucceſsfully employed againſt obſtinate rheumatic and iſchiadic pains.

LINIMENTUM CAMPHORÆ.

Lond.

Camphor liniment.

Take of
Camphor, two ounces;
Water of ammonia, ſix ounces;
Simple ſpirit of lavender, ſixteen ounces.
Mix the water of ammonia with the ſpirit, and diſtil from a glaſs retort, with a ſlow fire, ſixteen ounces. Then diſſolve the camphor in the diſtilled liquor.

This formula, which has now for the firſt time a place in the London pharmacopœia, approaches to the volatile eſſence of that celebrated empyric the late Dr Ward: But the above is a more elegant and active formula than either of the receipts publiſhed by Mr Page, from Dr Ward's book of receipts; and there is no reaſon to doubt that it will be equally effectual in removing ſome local pains, ſuch as particular kinds of headach, in conſequence of external application.

LINIMENTUM SAPONIS.

Lond.

Soap-liniment.

Take of
Soap, three ounces;
Camphor, one ounce;
Spirit of roſemary, one pint.
Digeſt the ſoap in the ſpirit of roſemary until it be diſſolved, and add to it the camphor.

This is the linimentum ſaponaceum of the former edition of the London pharmacopœia, without any alteration; and it differs very little from the balſamum ſaponaceum of the Edinburgh college already mentioned. Though a leſs active and penetrating application than the preceding, it is perhaps no leſs uſeful: and it is often ſucceſsfully employed for external purpoſes againſt rheumatic pains, ſprains, bruiſes, and ſimilar complaints.

UNGUENTUM ÆGYPTIACUM.

Gen.

Egyptian-ointment.

Take of

Honey, one pound;
Strong vinegar, half a pound;
Verdegris, powdered, five ounces.

Let the ingredients be boiled together till the verdegris be diſſolved, ſo that the ointment may have a due degree of thickneſs and a purple colour.

This preparation had formerly a place in our pharmacopœias under the title of *Mel Ægyptiacum:* and a ſimilar preparation has now a place under the title of *Oxymel æruginis.* But in that formula the proportion is much leſs than in the above. It may juſtly be conſidered as a very powerful application for cleanſing and deterging foul ulcers, as well as for keeping down fungous fleſh. But theſe purpoſes may in general be anſwered by articles leſs acrid and exciting leſs pain. Beſides this, the above preparation is alſo liable to conſiderable uncertainty with reſpect to ſtrength; for a large proportion of the verdegris will in a ſhort time ſubſide to the bottom: thus, what is in the top of the pot is much leſs active than that in the bottom.

UNGUENTUM ANODYNUM.

Gen.

Anodyne Ointment.

Take of

Olive-oil, ten drams;
Yellow wax, half an ounce;
Crude opium, one dram.

Mix them according to art, ſo as to form an ointment.

Opium thus externally applied, will in ſome degree be productive of the ſame effect as when uſed under the form of the anodyne balſam. In that ſtate it produces its effects more immediately; but under the preſent form its effects are more permanent. Beſides this, the preſent ointment furniſhes us with an uſeful dreſſing for ſores attended with ſevere pain; to which opium when diſſolved in ſpirit cannot be applied. Hence the preſent, or ſome analogous formula, is well intitled to a place in our pharmacopœias.

UNGUENTUM ad CANCRUM EXULCERATUM.

Brun.

Ointment for an ulcerated Cancer.

Take of

The recently expreſſed juice of the ricinus, one pound.

Let it be expoſed to the rays of the ſun in a leaden veſſel till it acquire the conſiſtence of an oil; then to one pound of this inſpiſſated juice, add

Calcined lead,
White precipitate mercury, each one pound.

Let them be properly mixed.

This acrid application muſt poſſeſs a conſiderable degree of corroſive power. And in ſome caſes of cancer, by the proper application of corroſives, much benefit may be done:

done: But where the diſeaſe has made any conſiderable progreſs, theſe will in general have the effect rather of haſtening its progreſs than of removing it; particularly if there be a large indolent tumour below the ulcer.

UNGUENTUM DIGESTIVUM.

Roſs.

Digeſtive Ointment.

Take of
Venice turpentine, one pound;
The yolks of eight eggs.
Mix them together, according to art.

This warm ſtimulating application is well ſuited to promote the ſuppurative inflammation, and may be advantageouſly had recourſe to, where it is neceſſary to encourage a large diſcharge of pus.

UNGUENTUM HÆMORRHOIDALE.

Hæmorrhoidal Ointment.

Take of
Saturnine ointment, ſix drams;
Oil of Hyoſcyamus, obtained by boiling, two drams;
Camphor, powdered, two ſcruples;
Saffron, one ſcruple.
Mix them into an ointment.

The name affixed to this ointment expreſſes the purpoſe for which it is applied. From the articles of which it conſiſts, it may be concluded, that it poſſeſſes a gently emollient and anodyne power; and may therefore afford conſiderable relief, where much pain ariſes from external hæmorrhoidal tumours.

UNGUENTUM LAURINUM.

Suec.

Laurel Ointment.

Take of
Prepared mutton-ſuet, eight ounces.
After it is melted and removed from the fire, add to it.
Oil of bays, one pound;
Æthereal oil of turpentine, one ounce;
Rectified oil of amber, half an ounce.
Let them be mixed and rubbed together till they form an ointment.

This is an improved mode of forming an ointment which had formerly a place in our pharmacopœias under the title of Unguentum nervinum. And it furniſhes a warm ſtimulating nervine application, which may in ſome degree reſtore ſenſe and motion to paralytic limbs. And while it at leaſt ſerves to lead to the careful uſe of friction, it may ſomewhat increaſe the benefit which would reſult from it.

UNGUENTUM de NICOTIANA.

Dan.

Ointment of Tobacco.

Take of
The leaves of tobacco, three pounds;
Juice of tobacco, nine ounces;
Hog's lard, a pound and a half.
Reſin, three ounces;
Let the cut leaves be macerated for the ſpace of a night, and then boiled over a gentle fire. Having ſtrained the fluid obtained by expreſſion add to it.
Yellow wax, half an ounce;
Powder of the root of birthwort, three ounces.
Mix them into an ointment.

There can be no doubt that tobacco externally applied has very pow-

powerful effects on the human body; and that not merely from its topical action, but sometimes even as affecting the system in general. From this last circumstance it requires to be used with great caution. It has, however, been found, under proper management, to afford an effectual cure in obstinate cutaneous affections. But were it to be used with this intention, we would have a more elegant formula, by merely impregnating either hog's-lard, or the unguentum simplex, with the active qualities extracted by the aid of heat, from the leaves of the prepared tobacco in the state in which it is usually brought to us from America, than by having recourse to the recent juice, and to the aristolochia and other additions here directed.

UNGUENTUM e STYRACE.

Suec.

Ointment of Storax.

Take of
Olive-oil, a pound and a half;
White resin;
Gum elemi,
Yellow wax, each seven ounces.

After they are melted together and strained, add
Liquid storax, seven ounces.

Mix them together, and agitate the mixture till it concretes into an uniform ointment.

An ointment supposed to derive its activity from the storax, altho' it have no place in our pharmacopœias, is received into most of the foreign ones. And it has been much celebrated not only as a strengthening application to weakly children, but even for the removal of affections of the bones, as in cases of rachitis and the like. It is, however, very doubtful how far these properties depend on the storax. If it have really any good effect, it is probable that this is more the consequence of the friction merely, than of any of the articles which enter the composition of the ointment. But there is reason to believe that the virtues attributed to this ointment are more imaginary than real.

UNGUENTUM e CEPA.

Suec.

Onion Ointment.

Take of
Yellow wax,
Resin, each half a pound.

To these melted, add
Onions roasted under the ashes;
Honey, each two pounds and a half;
Black soap, half a pound.

Let them be gently boiled together till all the moisture be consumed, then strain the liquor, expressing it from the materials, and afterwards agitate it with a wooden pestle that it may unite into one uniform mass.

This ointment is applied with the intention of promoting suppuration. And it has long been supposed, that the onion, especially in its roasted state, has a remarkable influence in this way: but there is reason to think, that the powers attributed to it have been greatly over-rated. And there is even ground to presume that these effects totally depend on heat and moisture. Hence no application is perhaps better suited for promoting suppuration than a poultice of bread and milk, applied as hot as can be borne with ease, and frequently repeated.

CHAP.

CHAP. XXXIII.

CERATA.

CERATES.

CERATES are ſubſtances intended for external application, formed of nearly the ſame materials which conſtitute ointments and plaſters. And they differ principally from theſe in being merely of an intermediate conſiſtence between the two. Accordingly, they are ſeldom the ſubject of a ſeparate chapter by themſelves, but are claſſed either with theone or the other. In the Edinburgh pharmacopœia they are claſſed among the ointments: But as the London college have referred them to a ſeparate head, we ſhall here alſo conſider them by themſelves.

CERATUM SIMPLEX.

Edinb.

Simple Cerate.

Take of
Olive oil, ſix parts.
White wax, three parts;
Spermaceti, one part.
Unite them according to art.

THIS differs from the ſimple ointment in containing a greater proportion of wax to the oil, and in the addition of the ſpermaceti. But by theſe means it obtains only a more firm conſiſtence, without any eſſential change of properties.

CERATUM CANTHARIDIS.

Lond.

Cerate of Cantharides, or *Spaniſh Flies.*

Take of
Cerate of ſpermaceti, ſoftened with heat, ſix drams;
Spaniſh flies, finely powdered, one dram.
Mix them.

UNDER this form cantharides may be made to act to any extent that is requiſite. It may ſupply the place either of the bliſtering plaſter or ointment; and there are caſes in which it is preferable to either. It is particularly more convenient than the Emplaſtrum cantharidum, where the ſkin to which the bliſter is to be applied is previouſly much affected, as in caſes of ſmall pox; and in ſupporting a drain under the form of iſſue, it is leſs apt to ſpread than the ſofter ointment.

CERATUM LAPIDIS CALAMINARIS.

Lond.

Calamine-cerate.

Take of
Calamine, prepared,
Yellow wax, of each half a pound;
Olive-oil, one pint.

Melt

Melt the wax with the oil; and, as soon as the mixture begins to thicken, mix with it the calamine, and stir the cerate until it be cold.

CERATUM e LAPIDE CALAMINARI.

Edinb.

Cerate of Calamine.

Take of

Simple cerate, five parts;
Calamine prepared, one part.

These compositions are formed on the Cerate which Turner strongly recommends in cutaneous ulcerations and excoriations, and which has been usually distinguished by his name. They appear from experience to be excellent epulotics, and as such are frequently used in practice.

CERATUM LITHARGYRI ACETATI.

Lond.

Cerate of acetated Litharge.

Take of

Water of acetated Litharge, two ounces and a half.
Yellow wax, four ounces.
Olive-oil, nine ounces;
Camphor, half a dram.

Rub the camphor with a little of the oil. Melt the wax with the remaining oil, and as soon as the mixture begins to thicken, pour in by degrees the water of acetated litharge, and stir constantly until it be cold; then mix in the camphor before rubbed with oil.

This application has been rendered famous by the recommendations of Mr Goulard. It is unquestionably in many cases very useful. It cannot, however, be considered as varying essentially from the saturnine ointment, or Unguentum e cerussa acetata, formerly mentioned. It is employed with nearly the same intentions, and differs from it chiefly in consistence.

CERATUM RESINÆ FLAVÆ.

Lond.

Cerate of yellow Resin.

Take of

Ointment of yellow resin, half a pound;
Yellow wax, one ounce.

Melt them together, and make a cerate.

This had formerly the name of *Unguentum citrinum*. It is no otherwise different from the yellow basilicum, or Unguentum resinæ flavæ, than being of a stiffer consistence, which renders it for some purposes more commodious.

CERATUM SAPONIS.

Lond.

Soap Cerate.

Take of

Soap, eight ounces;
Yellow wax, ten ounces;
Litharge, powdered, one pound;
Olive oil, one pint;
Vinegar, one gallon,

Boil the vinegar with the litharge, over a slow fire, constantly stirring until the mixture unites and thickens; then mix in the other articles, and make a cerate.

This, notwithstanding the name, may rather be considered as another saturnine application; its activity depending very little on the soap; and it may be held as varying in little else but consistence from the Emplastrum lythargyri. It can hardly be thought to differ in its properties from the cerate of acetated litharge just mentioned. For neither the small proportion of camphor which enters the composition

tion of the one, nor the ſoap which gives name to the other, can be conſidered as having much influence.

CERATUM SPERMATIS CETI.

Lond.

Cerate of Spermaceti.

Take of
Spermaceti, half an ounce;
White wax, two ounces;
Olive oil, four ounces.
Melt them together, and ſtir until the cerate be cold.

This had formerly the name of *Ceratum album*, and it differs in nothing from the Unguentum ſpermatis ceti, or Linimentum album, as it was formerly called, excepting in conſiſtence, both the wax and the ſpermaceti bearing a greater proportion to the oil.

CERATUM LABIALE.

Roſſ.

Lip-ſalve.

Take of
Olive-oil, eighteen ounces;
White wax, one pound;
Spermaceti, an ounce and a half;
Oil of rhodium, half a dram.
Form a cerate, tinging it with alkanet, ſo as to give a red colour.

The name affixed to this cerate points out the uſe for which it is intended. It is chiefly employed againſt thoſe chops and excoriations of the lips, which are often the conſequence of cold weather; and it is very well ſuited for removing affections of that kind. But excepting in the colour and ſmell which it derives from the alkanet and rhodium, it differs in nothing from the cerate of ſpermaceti, and cannot be conſidered as more effectually anſwering the intention in view.

CEREI MEDICATI.

Suec.

Bougies.

Take of
Yellow wax, melted, one pound;
Spermaceti, three drams;
Vinegar of litharge, two drams.
Mix them, and upon removal from the fire immerſe into the mixture ſlips of linen, of which bougies are to be formed according to the rules of art.
Theſe may alſo be made with double, triple, or quadruple, the quantity of the vinegar.

It is perhaps rather ſurpriſing, that no formula for the preparation of bougies has a place in our pharmacopœias: For there can be no doubt, that although the preparation of them has hitherto been principally truſted to empirics; yet in the hand of the ſkilful practitioner they are of great ſervice in combating obſtinate affections. Although it has been pretended by ſome that their influence is to be aſcribed to certain impregnations; yet it is on better grounds contended, that they act entirely on mechanical principles. The great object is therefore to obtain the union of a proper degree of firmneſs and flexibility. Theſe qualities the above compoſition poſſeſſes; and it does not probably derive any material benefit from being prepared with an additional proportion of the Acetum lithargyri.

CHAP.

CHAP. XXXIV.

EPITHEMATA.

EPITHEMS.

BY epithems or cataplasms are in general understood those external applications, which are brought to a due consistence or form for being properly applied, not by means of oily or fatty matters, but by water or watery fluids. Of these not a few are had recourse to in actual practice; but they are seldom prepared in the shops of the apothecaries; and in some of the best modern pharmacopœias, no formulæ of this kind are introduced. The London college, however, although they have abridged the number of epithems, still retain a few. And it is not without some advantage that there are fixed forms for the preparation of them.

CATAPLASMA CUMINI.

Lond.

Cataplasm of Cummin.

Take of

Cummin-seed, one pound;
Bay-berries,
Dry leaves of water germander, or scordium,
Virginian snake-root, of each three ounces;
Cloves, one ounce.

Rub them all together; and, with the addition of three times the weight of honey, make a cataplasm.

THIS is adopted into the present edition of the London pharmacopœia with very little alteration from the last. It was then intended as a reformation of the THERIACA LONDINENSIS, which for some time past has been scarcely otherwise used than as a warm cataplasm. In place of the numerous articles which formerly entered that composition, only such of its ingredients are retained as contribute most to this intention: But even the article from which it now derives its name, as well as several others which still enter it, probably contribute very little to any medical properties it may possess.

CATAPLASMA SINAPEOS.

Lond.

Mustard-cataplasm.

Take of

Mustard seed, powdered,

Crumb

Crumb of bread, of each half a pound;
Vinegar, as much as is ſufficient.
Mix, and make a cataplaſm.

EPITHEMS of this kind are commonly known by the name of *Sinapiſms*. They were formerly not unfrequently prepared in a more complicated ſtate, containing garlic, black-ſoap, and other ſimilar articles; but the above ſimple form will anſwer every purpoſe which they are capable of accompliſhing. They are employed only as ſtimulants: they often inflame the part and raiſe blifters, but not ſo perfectly as cantharides. They are frequently applied to the ſoles of the feet in the low ſtate of acute diſeaſes, for raiſing the pulſe and relieving the head. The chief advantage they have depends on the ſuddeneſs of their action.

COAGULUM ALUMINIS.

Lond.

Alum-curd.

Take
The whites of two eggs;
Shake them with a piece of alum till they be coagulated.

THIS preparation is taken from Riverius. It is an uſeful aſtringent epithem for ſore, moiſt eyes, and excellently cools and repreſſes thin defluxions. Slighter inflammations of the eyes, occaſioned by duſt, expoſure to the ſun, or other ſimilar cauſes, are generally removed by fomenting them with warm milk and water, and waſhing them with ſolutions of white vitriol. Where the complaint is more violent, this preparation, after the inflammation has yielded a little to bleeding, is one of the beſt external remedies. It is to be ſpread on lint, and applied at bed-time.

A TABLE, *ſhewing in what Proportions* MERCURY *or* OPIUM *enter different Formulæ.*

PULVIS e creta compoſitus cum opio. Lond. In about forty-four grains, one grain of opium is contained.

Pulvis ipecacuanhæ compoſitus. Lond. In ten grains, one grain of opium.

Pulvis ſudorificus. Ed. In eleven grains, one grain of opium.

Pulvis opiatus. Lond. In ten grains, one grain of opium.

Pulvis e ſcammonio cum calomelane. Lond. In four grains, one grain of calomel.

Pilula ex opio. Lond. In five grains, one grain of opium.

Pilulæ thebaicæ. Ed. In ten grains, one grain of opium.

Pilulæ ex hydrargyro. Lond. In two grains and a half, one grain of mercury.

Pilulæ ex hydrargyro. Ed. In four grains, one grain of mercury.

Pilulæ plummeri. Ed. In two grains and two thirds, one grain of calomel.

Confectio opiata. Lond. In thirty-ſix grains, one grain of opium.

Electuarium Japonicum. Ed. In about one hundred and ninety-three grains, one grain of opium.

Electuarium Thebaicum. Ed. In ninety-ſeven grains, one grain of opium.

Trochiſci bechici cum opio. Ed. In fifty-five grains, one grain of opium.

Theſe trochiſci are not unfrequently ordered *cum duplice opio*, and under this form are kept in many ſhops.

Emplaſtrum ammoniacum cum hydrargyro. Lond. In five ounces, one ounce of mercury.

Emplaſtrum lythargyri cum hydrargyro. Lond. In five ounces, one ounce of mercury.

Emplaſtrum e hydrargyro. Ed. In three ounces and two thirds, one ounce of mercury.

Unguentum hydrargyri fortius. Lond. In two drams one dram of mercury.

Unguentum hydrargyri mitius. Lond. In five drams, one dram of mercury.

Unguentum ex hydrargyro. Ed. In five drams, one dram of mercury.

Unguentum hydrargyri nitrati. Lond. In one dram, four grains of nitrated quickſilver.

Unguentum citrinum. Ed. In one dram, four grains of nitrated quickſilver.

Unguentum calcis hydrargyri albæ. Lond. In one dram, four grains and two thirds of the calx hydrargyri alba.

Tinctura opii. Lond. is made with opium, in the proportion of one grain to about thirteen of the menſtruum.

Tinctura Thebaica. Ed. is made with opium, in the proportion of one grain to twelve of the menſtruum.

Tinctura opii camphorata. Lond. is made with opium, in the proportion of one grain to two hundred and ſixty of the menſtruum.

Elixir paregoricum. Ed. is made with opium, in the proportion of one grain to ſixty-eight of the menſtruum.

Balſamum anodynum, Ed. is made with opium, in the proportion of one grain to about thirty of the menſtruum.

TABLE

TABLE *of* NAMES *changed in the* LONDON *and* EDINBURGH PHARMACOPOEIAS.

Names in former Pharmacopœias.	*New Names.*
ACETUM ſcilliticum.	Acetum ſcillæ. Lond.
Æthiops mineralis.	Hydrargyrus cum ſulphure. Lond.
Aqua aluminoſa Bateana.	Aqua aluminis compoſita. Lond.
calcis ſimplex.	calcis. Lond.
cinnamomi ſimplex.	cinnamomi. Lond.
——— ſpirituoſa.	Spiritus cinnamomi. Lond.
hordeata.	Decoctum hordei. Lond.
juniperi compoſita.	Spiritus juniperi compoſitus. Lon.
menthæ piperitidis ſimplex.	Aqua menthæ piperitidis. Lond.
——— ſpirituoſa.	Spiritus menthæ piperitidis. Lon.
vulgaris ſimplex.	Aqua menthæ ſativæ. Lond.
——— ſpirituoſa.	Spiritus menthæ ſativæ. Lond.
nucis moſchatæ.	nucis moſchatæ Lond.
piperis Jamaicenſis.	Aqua pimento. Lond.
pulegii ſimplex.	pulegii. Lond.
pulegii ſpirituoſa.	Spiritus pulegii. Lond.
raphani compoſita.	raphani compoſitus. Lond.
roſarum damaſcenarum.	Aqua roſæ. Lond.
ſapphirina.	cupri ammoniati. Lond.
ſeminum anethi.	anethi. Lond.
——— aniſi compoſita.	Spiritus aniſi compoſitus. Lond.
——— carui.	carui. Lond.
Aqua vitriolica camphorata.	Aqua zinci vitriolati cum campho-ra. Lond.
Argenti vivi purificatio.	Hydrargyri purificatio. Lond.
Axungiæ porcinæ curatio.	Adipis ſuillæ præparatio. Lond.
B.	
Balſamum ſulphuris barbadenſe.	Petroleum ſulphuratum. Lond.
——— ſimplex.	Oleum ſulphuratum. Lond.
traumaticum.	Tinctura benzoes compoſita. Lon.
anodynum.	Linimentum anodynum. Ed.
ſaponaceum.	Linimentum ſaponaceum. Ed.
Butyrum antimonii.	Cauſticum antimoniale. Ed.

Names in former Pharmacopœias.	*New Names.*
C.	
Calx antimonii.	Antimonium calcinatum. Lond.
Caufticum antimoniale.	muriatum. Lond.
commune fortius.	Calx cum kali puro. Lond.
lunare.	Argentum nitratum. Lond. / Sal argenti. Ed.
Ceratum album.	Ceratum ſpermatis ceti. Lond.
citrinum.	reſinæ flavæ. Lond.
epuloticum.	lapidis calaminaris. Lond.
Chalybis rubigo præparata.	Ferri rubigo. Lond.
Cinnabaris factitia.	Hydrargyrus ſulphuratus ruber. L.
Confectio cardiaca.	Confectio aromatica. Lond. / Electuarium cardiacum. Ed.
Confectio Japonica.	Electuarium Japonicum. Ed.
Cornu cervi calcinatio.	Cornu cervi uſtio. Lond.
Crocus metallorum.	Crocus antimonii. Ed.
D.	
Decoctum album.	Decoctum cornu cervi. Lond.
commune pro clyſtere.	pro enemate. Lond.
pectorale.	hordei compoſitum. L.
E.	
Electarium lenitivum.	Electuarium e ſenna. Lond.
Elixir aloes.	Tinctura aloes compoſita. Lond.
myrrhæ compoſitum.	ſabinæ compoſita. Lond.
paregoricum.	opii camphorata. Lond.
proprietatis.	Elixir aloes. Ed.
ſacrum.	ex aloe et rheo. Ed.
ſalutis.	Tinctura ſennæ compoſita.
Emplaſtrum ex ammoniaco cum mercurio.	Emplaſtrum ammoniaci cum hydrargyro. Lond.
antihyſtericum.	fœtidum. Ed.
attrahens.	ceræ. Lond.
cephalicum.	picis burgundicæ. L.
commune.	lithargyri. Lond.
— adheſivum.	— cum reſina. Lond.
— cum gummi.	— cum gummi. Lon.
— cum mercurio.	— cum hydrargyro. L.
e cymino.	cumini. Lond.
roborans.	thuris. Lond.
e ſapone.	ſaponis. Lond.
ſtomachicum.	ladani. Lond.
veſicatorium.	cantharidis. Lond.

Emulſio

Names in former Pharmacopœias.	*New Names.*
Emulsio communis.	Lac amygdalæ. Lond.
Ens veneris.	Flores martiales. Ed.
Extractum catharticum.	Extractum e colocythide compositum. Lond.
thebaicum.	Opium purificatum. Lond.
E.	
Ferri rubigo.	Ferri limatura præparata. Ed.
Flores benzoini.	Flores benzoes. Lond.
martiales.	Ferrum ammoniacale. Lond.
zinci.	Calx zinci. Lond.
Fotus communis.	Decoctum pro fomento. Lond.
H.	
Hiera picra.	Pulvis aloeticus. Lond.
I.	
Infusum amarum simplex.	Infusum gentianæ compositum. L.
sennæ commune.	sennæ tartarisatum. Lond.
Julepum e camphora.	Mistura camphorata. Lond.
e creta.	cretacea. Lond.
e moscho.	moschata. Lond.
L.	
Laudanum liquidum.	Tinctura thebaica. Ed.
Linimentum album.	Unguentum spermatis ceti. Lond.
saponaceum.	Linimentum saponis. Lond.
volatile.	ammoniæ. Lond.
Lixivium saponarium,	Aqua kali puri. Lond.
tartari.	kali. Lond.
M.	
Mel Ægyptiacum.	Oxymel æruginis. Lond.
rosaceum.	Mel rosæ. Lond.
Mercurius calcinatus.	Hydrargyrus calcinatus. Lond.
corrosivus sublimatus.	muriatus. Lond.
——— ruber.	nitratus ruber. Lond.
dulcis sublimatus.	Calomelas. Lond.
emeticus flavus.	Hydrargyrus vitriolatus. Lond.
præcipitatus albus.	Calx hydargyri alba. Lond.
——— ruber.	Mercurius corrosivus ruber. Edin.

Nitrum

Names in former Pharmacopœias.	*New Names.*
N.	
Nitrum vitriolatum.	Kali vitriolicum. Lond.
O.	
Oleum animale.	Oleum e cornubus rectificatum. Ed.
petrolei barbadenſis.	petrolei. Lond.
terebinthinæ æthereum.	terebinthinæ rectificatum. L.
Opium colatum.	Opium purificatum. Lond.
Oxymel ſcilliticum.	Oxymel ſcillæ. Lond.
P.	
Philonium Londinenſe.	Confectio opiata. Lond.
Pilulæ aromaticæ.	Pulvis aloeticus cum guaiaco. Lon.
cocciæ.	Pilulæ ex colocynthide cum aloe. E.
mercuriales.	ex hydrargyro. Edin.
pacificæ.	thebaicæ. Edin.
rufi.	ex aloe cum myrrha. Lond.
Pulvis e bolo compoſitus.	Pulvis e creta compoſitus. Lond.
——— cum opio.	——— cum opio. Lond.
cephalicus.	ſternutatorius. Edin.
e ceruſſa compoſitus.	e ceruſſa. Lond.
Doveri.	ſudorificus. Edin.
ſternutatorius.	aſari compoſitus. Lond.
R.	
Rob baccarum ſambuci.	Succus baceæ ſambuci ſpiſſatus. Lond. Edinb.
S.	
Saccarum ſaturni.	Ceruſſa acetata. Lond. / Sal plumbi. Edin.
Sal abſinthii.	Kali. Lond.
ammoniacus volatilis.	Alkali volatile ex ſale ammoniaco. Edin.
catharticus glauberi.	Natron vitriolatum. Lond. / Soda vitriolata. Edin.
diureticus.	Kali acetatum. Lond.
martis.	Ferrum vitriolatum
rupellenſis.	Soda tartarifata. Edin.
tartari.	Kali. Lond.
vitrioli.	Zincum vitriolatum. Lond.
volatilis ſalis ammoniaci.	Ammonia. Lond.
Species aromaticæ.	Pulvis aromaticus. Lond.
Spiritus cornu cervi.	Liquor volatilis cornu cervi. Lond.

Spiritus

Names in former Pharmacopœias.	*New Names.*
Spiritus lavendulæ compositus.	Tinctura lavendulæ. Lond.
——— simplex.	Spiritus lavendulæ. Lond.
nitri dulcis.	{ Spiritus ætheris nitrosi. Lond. Acidum nitri vinosum. Edin.
—— glauberi.	Acidum nitrosum Lond. Edin.
salis ammoniaci.	Aqua ammoniæ. Lond.
salis ammoniaci cum calce vivo.	Alkali volatile causticum. Edin.
salis ammoniaci dulcis.	Spiritus ammoniæ. Lond.
salis marini glauberi.	Acidum muriaticum. Lond.
Vinosus camphoratus.	Spiritus camphoratus. Lond.
vitrioli dulcis.	{ Spiritus ætheris vitriolici. Lond. Acidum vitriolicum vinosum. Ed.
——— tenuis.	{ Acidum vitriolicum dilutum. L. Acidum vitriolicum tenue. Ed.
volatilis aromaticus.	Spiritus ammoniæ compositus. L.
——— fœtidus.	——— fœtidus. Lond.
Succi scorbutici.	Succus cochleariæ compositus. L.
Sulphur auratum antimonii.	Sulphur antimonii præcipitatum. E.
Syrupus ex althæa.	Syrupus althææ. Lond.
e corticibus aurantiorum.	corticis aurantii. Lond.
balsamicus.	tolutanus. Lond.
e meconio.	papaveris albi. Lond.
rosarum solutivus.	rosæ. Lond.

T.

Tabellæ cardialgicæ.	Trochisci e creta. Lond.
Tartarum emeticum.	{ Antimonium tartarisatum. Lon. Tartarus antimonialis. Ed.
regeneratum.	Alkali fixum vegetabile acetatum. Edinb.
solubile.	{ Kali tartarisatum. Lond. Alkali fixum vegetabile tartarisatum. Ed.
vitriolatum.	{ Kali vitriolatum. Lond. Alkali fixum vegetabile vitriolatum, Ed.
Tinctura amara.	Tinctura gentianæ composita. L.
antiphthisica.	saturnina. Edinb.
aromatica.	cinnamomi composita. L.
fœtida.	asæ fœtidæ. Lond.
guaiacina volatilis.	guaiaci. Lond.
ipecacuanhæ.	Vinum ipecacuanhæ. Edinb.
japonica.	Tinctura catechu. Lond.
martis in spiritu salis.	ferri muriati. Lond.
melampodii.	Tinctura hellebori nigri. Lond.
rhabarbari spirituosa.	rhabarbari. Lond.
——— vinosa.	Vinum rhabarbari. Lond.

Tinctura

Names in former Pharmacopœias.	*New Names.*
Tinctura roſarum.	Infuſum roſæ. Lond. roſarum. Edin.
ſacra,	Vinum aloes. Lond.
ſtomachica.	Vinum aloeticum. Edin.
Trochiſci bechici albi.	Tinctura cardamomi compoſita. L.
——— nigri.	Trochiſci amyli, Lond.
Turpethum minerale.	glycyrrhizæ. Lond.
	Mercurius flavus. Edin.

V. U.

Vinum antimoniale.	Vinum antimonii. Lond.
chalybeatum.	ferri. Lond.
Unguentum album.	Unguentum ceræ. Lond.
album.	e ceruſſa. Edin.
antipſoricum.	e ſulphure. Edin.
baſilicum flavum.	reſinæ flavæ. Lond.
cœruleum.	ex hydrardyro. Edin.
——— fortius.	hydargyri fortius. L.
——— mitius.	——— mitius. L.
e mercurio præcipitato.	calcis hydrargyri albæ. Lond.
ſaturninum.	ceruſſæ acetatæ. Lond.
ſimplex.	adipis ſuillæ. Lond.
ad veſicatoria.	cantharidis. Lond.

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